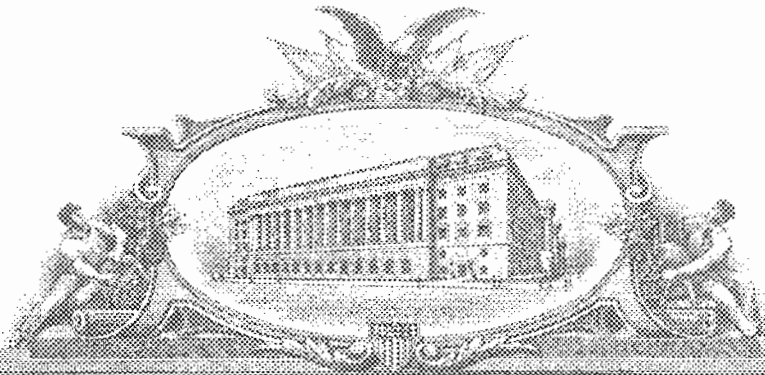


A 1836757



# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

April 01, 2011

THIS IS TO CERTIFY THAT ANNEXED IS A TRUE COPY FROM THE  
RECORDS OF THIS OFFICE OF A DOCUMENT RECORDED ON  
JANUARY 24, 2000.

By Authority of the

Under Secretary of Commerce for Intellectual Property  
and Director of the United States Patent and Trademark Office

  
M. K. CARTER  
Certifying Officer



IDC\_ITCCOMP\_00000337

**Microsoft Corporation**  
**Exhibit 1020-00001**

01/24/00  
RECORDATION  
PAT

02-24-2000

Docket No.: TAN99-16



101276261

To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof.

1. Name of conveying party(ies)  
Thomas E. Gorsuch

210 JAN 24 AM 10:55  
OPR/FINANCE

Additional name(s) of conveying party(ies) attached? ☐ Yes ☒ No

3. Nature of conveyance:  
☒ Assignment ☐ Merger  
☐ Security Agreement ☐ Change of Name  
☐ Other

Execution Date: January 7, 2000

2. Name and address of receiving party(ies)  
Name: Tantivy Communications, Inc.  
Internal Address:  
Street Address: 2200 Front Street, Suite 300  
City: Melbourne State: FL ZIP: 32901  
Additional name(s) & address(es) attached? ☐ Yes ☒ No

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:  
A. Patent Application No.(s)  
09/400,136

B. Patent No.(s)  
Additional numbers attached? ☐ Yes ☒ No

5. Name and address of party to whom correspondence concerning document should be mailed:  
Name: David J. Thibodeau, Jr.  
Internal Address:  
Hamilton, Brook, Smith & Reynolds, P.C.  
Street Address: Two Militia Drive  
City: Lexington State: MA ZIP: 02421-4799

6. Total number of applications and patents involved: [ 1 ]  
7. Total Fee (37 C.F.R. 3.41) \$ 40.00  
☒ Enclosed  
☒ Authorized to charge any deficiencies or credit any overpayment to deposit account  
☐ Authorized to be charged to deposit account  
8. Deposit account number:  
08-0380  
(Attach duplicate copy of this page if paying by deposit account)

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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  
Gerald M. Bluhm  
Name of Person Signing  
Signature  
Date  
Total number of pages including cover sheet, attachments, and document: [ 3 ]

02/23/2000 DNGUYEN 00000212 09400136

01 FC:581

( 40.00 OP )

PATENT  
REEL: 010559 FRAME: 0980

IDC\_ITCCOMP\_00000338

Microsoft Corporation  
Exhibit 1020-00002

SoleASSIGNMENT

WHEREAS, I, **Thomas E. Gorsuch**, have invented a certain improvement in **Dual Mode Subscriber Unit for Short Range, High Rate and Long Range, Lower Rate Data Communications**, described in an application for Letters Patent of the United States, the specification of which:

- ☐ is being executed on even date herewith and is about to be filed in the United States Patent Office;
- ☒ was filed on September 21, 1999 as Application No. 09/400,136;
- ☐ was patented under U.S. Patent No. \_\_\_\_\_ on \_\_\_\_\_.

WHEREAS, **Tantivy Communications, Inc.** (hereinafter "ASSIGNEE"), a corporation organized and existing under the laws of the **State of Delaware** and having a usual place of business at **2200 Front Street, Suite 300, Melbourne Florida 32901** desires to acquire an interest therein in accordance with agreements duly entered into with me;

NOW, THEREFORE, to all whom it may concern be it known that for and in consideration of said agreements and of other good and valuable consideration, the receipt of which is hereby acknowledged, I have sold, assigned and transferred and by these presents do hereby sell, assign and transfer unto said ASSIGNEE, its successors, assigns and legal representatives, the entire right, title and interest in and throughout the United States of America, its territories and all foreign countries, in and to said invention as described in said application, together with the entire right, title and interest in and to said application and such Letters Patent as may issue thereon; said invention, application and Letters Patent to be held and enjoyed by said ASSIGNEE for its own use and behalf and for its successors, assigns and legal representatives, to the full end of the term for which said Letters Patent may be granted as fully and entirely as the same would have been held by me had this assignment and sale not been made; I hereby convey all rights arising under or pursuant to any and all international agreements, treaties or laws relating to the protection of industrial property by filing any such applications for Letters Patent. I hereby acknowledge that this assignment, being of the entire right, title and interest in and to said invention, carries with it the right in ASSIGNEE to apply for and obtain from competent authorities in all countries of the world any and all Letters Patent by attorneys and agents of ASSIGNEE's selection and the right to procure the grant of all such Letters Patent to ASSIGNEE for its own name as assignee of the entire right, title and interest therein;

AND, I hereby further agree for myself and my executors and administrators to execute upon request any other lawful documents and likewise to perform any other lawful acts which may be deemed necessary to secure fully the aforesaid invention to said ASSIGNEE, its successors, assigns and legal representatives, but at its or their expense and charges, including the execution of applications for patents in foreign countries, and the execution of substitution, reissue, divisional or continuation applications and preliminary or other statements and the giving of testimony in any interference or other proceeding in which said invention or any application or patent directed thereto may be involved;

I'

**PATENT**  
**REEL: 010559 FRAME: 0981**

IDC\_ITCCOMP\_00000339

**Microsoft Corporation**  
**Exhibit 1020-00003**

AND, I do hereby authorize and request the Commissioner of Patents of the United States to issue such Letters Patent as shall be granted upon said application or applications based thereon to said ASSIGNEE, its successors, assigns, and legal representatives.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my seal the date set forth below.

Inventor's Signature: Thomas E. Gorsuch  
Thomas E. Gorsuch

State/Commonwealth  
of Florida  
County of Brevard

Then personally appeared before me the above-named **Thomas E. Gorsuch** and acknowledged that he/she executed the foregoing instrument as his/her free act and deed this 7th day of January, 19 2000



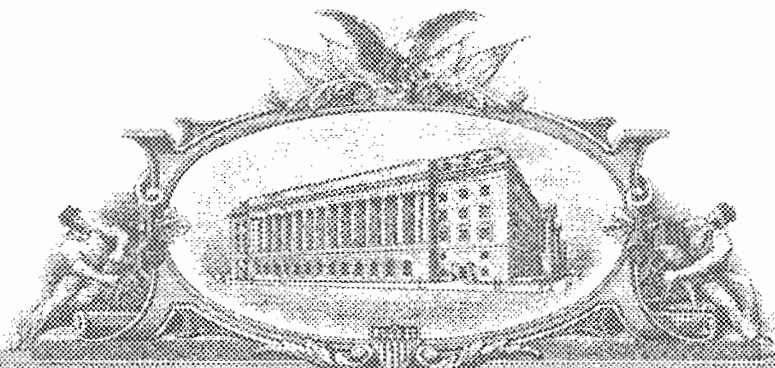
Kristen King Notary Public  
Kristen King (print name)  
My Commission expires 2 / 24 / 03

RECORDED: 01/24/2000

PATENT  
REEL: 010559 FRAME: 0982

IDC\_ITCCOMP\_00000340

Microsoft Corporation  
Exhibit 1020-00004



**THE UNITED STATES OF AMERICA**

**TO ALL TO WHOM THESE PRESENTS SHALL COME:**

**UNITED STATES DEPARTMENT OF COMMERCE**

**United States Patent and Trademark Office**

**April 05, 2011**

**THIS IS TO CERTIFY THAT ANNEXED IS A TRUE COPY FROM THE  
RECORDS OF THIS OFFICE OF A DOCUMENT RECORDED ON  
JANUARY 22, 2002.**

By Authority of the  
Under Secretary of Commerce for Intellectual Property  
and Director of the United States Patent and Trademark Office



  
**R. BLAKENEV**  
Certifying Officer

**IDC\_ITCCOMP\_00000341**

**Microsoft Corporation**  
**Exhibit 1020-00005**

02-06-2002

FORM PTO-1595

1-31-92



101974464

ER SHEET  
LYU.S. DEPARTMENT OF COMMERCE  
Patent and Trademark Office

To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof.

1. Name of conveying party(ies):

Tantivy Communications, Inc.

2. Name and address of receiving party(ies):

Name: Silicon Valley Bank

Internal Address: Loan Documentation HGT50 HAV55

Additional name(s) of conveying party(ies) attached? ☐ Yes ☒ No

3. Nature of conveyance:

☐ Assignment☐ Merger

1-22-02

☒ Security Agreement☐ Change of Name☐ Other

Street Address: 3003 Tasman Dr.

City: Santa Clara

State: Ca

ZIP: 95054

Execution Date: NOVEMBER 30, 2001

Additional name(s) & address(es) attached? ☐ Yes ☒ No

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:

A. Patent Application No.(s)

B. Patent No.(s)

SEE ATTACHED EXHIBIT A listing

Additional numbers attached? ☒ Yes ☐ No

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: Silicon Valley Bank

Internal Address: Loan Documentation HGT50 HAV55

6. Total number of applications and patents involved: 88

7. Total fee (37 CFR 3.41): ..... \$ 3,520

☒ Enclosed☐ Authorized to be charged to deposit account

Street Address: 3003 Tasman Dr.

8. Deposit account number:

City: Santa Clara

State: Ca

ZIP: 95054

(Attach duplicate copy of this page if paying by deposit account)

DO NOT USE THIS SPACE

02/06/2002 6TON11 00000014 6081536

01 FC:581

3520.00 0P

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.

Janice Chua

12/19/01

Name of Person Signing

Signature

Date

Total number of pages comprising cover sheet: 13 11

OMB No 0851-0011 (exp 4-94)

PATENT  
REEL: 012506 FRAME: 0808

IDC\_ITCCOMP\_00000342

Microsoft Corporation  
Exhibit 1020-00006

Serial/ Patent No.	US Filing Date	Issued Date	Title	Status
6081536		06/27/00	Dynamic Bandwidth Allocation To Transmit A Wireless Protocol Across A Code Division Multiple Access (CDMA) Radio Link	ISSUED
6100843		08/08/00	Adaptive Antenna For Use In Same Frequency Networks	ISSUED
6151332		11/21/00	Protocol Conversion And Bandwidth Reduction Technique Providing Multiple nB+D ISDN Basic Rate Interface Links Over A Wireless Code Division Multiple Access Communication System	ISSUED
6212220		04/03/01	Method And Apparatus For Creating Non-Interfering Signals Using Non-Orthogonal Techniques	ISSUED
6222832		04/24/01	Fast Acquisition Of Traffic Channels For A Highly Variable Data Rate Reverse Link Of A CDMA Wireless Communication System	ISSUED
6236647		05/22/01	Dynamic Frame Size Adjustment And Selective Reject On A Multi-Link Channel To Improve Effective Throughput And Bit Error Rate	ISSUED
6239756		05/29/01	Antenna Array With Housing	ISSUED
6301291		10/09/01	Pilot Symbol Assisted Modulation and Demodulation in Wireless Communication Systems	ISSUED
6304215		10/16/01	A Method of Use For An Adaptive Antenna In Same Frequency Networks	ISSUED
09/738,934	12/15/00		Reverse Link Correlation Filter In Wireless Communication Systems	Filed US Application
09/789,476	02/20/01		Method for Searching Pilot Signals to Synchronize a CDMA Receiver with an Associated Transmitter	Filed US Application
09/766,875	01/19/01		Access Channel Structure For Wireless Communication System	Filed US Application
09/846,693	05/01/01		Adaptive Antenna for Use in Wireless Communication Systems	Filed US Application
09/088,527	06/01/98		Dynamic Bandwidth Allocation For Multiple Access Communications Using Buffer Urgency Factor	Filed US Application
09/158,421	09/21/98		Power Control Protocol For Highly Variable Data Rate Reverse Link Of A Wireless Communication System (incorporates TAN98-26)	Filed US Application
09/263,358	03/05/99		Forward Error Correction On Multiplexed CDMA Channels Enabling High Performance Coding	Filed US Application
09/288,229	04/08/99		System And Method For Always On Virtual Connectivity In A Wireless System	Filed US Application
09/301,483	04/28/99		Subscriber-Controlled Registration Technique In A CDMA System	Filed US Application
09/301,484	04/28/99		Forward Error Correction Scheme For High Rate Data Exchange In A Wireless System	Filed US Application
09/313,684	05/18/99		Variable Rate Orthogonally Coded Reverse Link Structure (incorporates TAN98-32)	Filed US Application
09/328,663	06/09/99		Floating IP Address For Roaming Internet Connected Subscriber Units	Filed US Application
09/384,041	08/26/99		Antenna Array Structure Stacked Over Printed Wiring Board With Beamforming Components	Filed US Application
09/384,072	08/26/99		Two Tier Hi-Speed Wireless Communication Link	Filed US Application
09/388,000	09/01/99		Packaging Timeout Spoofing in A Wireless Data Communications Network	Filed US Application
09/400,136	09/21/99		Dual Mode Subscriber Unit For Short Range, High Rate and Long Range, Lower Rate Data Communications	Filed US Application
09/447,022	11/22/99		Variable Rate Coding For Forward Link	Filed US Application
09/467,353	12/20/99		Method And Apparatus For A Spectrally Compliant Cellular Communication System	Filed US Application
09/482,241	01/13/00		Arbitration Method For High Power Transmissions In A Code Division Multiple Access System	Filed US Application
09/515,487	02/29/00		Fast Acquisition Of Traffic Channels For A Highly Variable Data Rate Reverse Link Of A CDMA Wireless Communication System	Filed US Application
09/565,095	05/05/00		Wireless Channel Allocation in a Base Station Processor	Filed US Application
09/574,622	05/19/00		Automatic Reverse Channel Assignment In A Two-Way TDM Communication System	Filed US Application
09/594,112	06/14/00		TDM Multiplexing Without Time Slot Assignment	Filed US Application
09/596,425	06/19/00		Dynamic Bandwidth Allocation To Transmit A Wireless ISDN Protocol Across A Code Division Multiple Access (CDMA) Radio Link	Filed US Application
09/616,588	07/14/00		Adaptive Antenna For Use In Same Frequency Networks	Filed US Application
09/626,784	07/27/00		Mobile Assisted Session Context Maintenance Transfer To New Base Station	Filed US Application
09/630,024	07/31/00		Efficient Network Multicast Over A Wireless Router	Filed US Application
09/691,874	10/19/00		Staggering Forward and Reverse Channel Allocating Timing	Filed US Application
09/728,575	11/30/00		Reverse Link Pilot Integrated With Block Codes (incorporates TAN99-06)	Filed US Application
09/730,376	12/05/00		Fast Acquisition Of Traffic Channels For A Highly Variable Data Rate Reverse Link Of A CDMA Wireless Communication System	Filed US Application
09/771,929	01/29/01		A Simple PPP Handoff For Mobile Users	Filed US Application
09/772,176	01/29/01		Method and Apparatus for Detecting Rapid Changes in Signal Path Environment	Filed US Application
09/772,200	01/29/01		Method for Using a Non-Orthogonal Pilot Signal with Data Channel Interference Cancellation	Filed US Application
09/773,251	01/31/01		Ground-Plane Topped Printed-Circuit Monopole Antenna for Array Applications	Filed US Application
09/773,252	01/31/01		Clarification of the Dynamic Bandwidth Allocation for Multiple Access Communications using Buffer Urgency Factor	Filed US Application
09/773,253	01/31/01		Maximizing Data Rate By Adjusting Codes And Code Rates In CDMA System	Filed US Application
09/773,254	01/31/01		Improved Ground Plane Concepts for the Closely Spaced 360 degree Electronic Scanning Array	Filed US Application

Issued-Filed 11-13-01.xls  
11/13/01

COMPANY CONFIDENTIAL

1

PATENT

REEL: 012506 FRAME: 0809

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Microsoft Corporation  
Exhibit 1020-00007



Serial/ Patent No.	US Filing Date	Issued Date	Title	Status
09/773,255	01/31/01		Queuing Far/Far Service Requests In Wireless Network	Filed US Application
09/773,277	01/31/01		Printed-Circuit End Fed Micro-Strip Stacked Dipole Antenna For Phased Array Antenna Applications	Filed US Application
09/773,364	01/31/01		Achieving PPP Mobility Via The Mobile IP Infrastructure	Filed US Application
09/773,377	01/31/01		Printed-Circuit Low Profile Vertical Dipole	Filed US Application
09/774,534	01/31/01		Electronic Phase Shifter With Enhanced Phase Shift Performance	Filed US Application
09/774,545	01/31/01		Adaptive Compression In An Edge Router	Filed US Application
09/775,304	02/01/01		Joint Acknowledgement Channel Optimization in a Wireless Link	Filed US Application
09/775,305	02/01/01		Maintenance Link Including Active/Standby Request Channels	Filed US Application
09/776,396	02/02/01		System And Method To Perform Directional Re-Scan Of An Adaptive Antenna	Filed US Application
09/776,397	02/02/01		Method and Apparatus for Antenna Control in a Communications Network	Filed US Application
09/776,558	02/02/01		Method Of Adapting An Antenna Array To Reduce Adaptation Time While Increasing Array Performance	Filed US Application
09/777,555	02/05/01		Application-Specific Traffic Optimization in a Wireless Link	Filed US Application
09/777,557	02/05/01		Link-Aware Transmission Control Protocol Performance Enhancement	Filed US Application
09/778,474	02/07/01		Minimal Maintenance Link to Support Synchronization (TAN99-10)	Filed US Application
09/778,478	02/07/01		Grade-Of-Service And Fairness Policy For Bandwidth Reservation System	Filed US Application
09/791,503	02/23/01		Method And System For Economical Beam Forming In A Radio Communication System	Filed US Application
09/792,410	02/23/01		Access Probe Acknowledgment Including Collision Detection to Avoid Oversetting Initial Power Level	Filed US Application
09/792,637	02/23/01		Qualifying Available Reverse Link Coding Rates from Access Channel Power Setting	Filed US Application
09/792,870	02/23/01		Reverse Link Initial Power Setting Using Effective Radiated Power Message to Compute Path Loss	Filed US Application
09/802,128	03/08/01		Efficient Basestation Handoffs Through the Use of Mobile IP Simultaneous Bindings and the Snoop Protocol	Filed US Application
09/820,204	03/28/01		Dynamic Internet content filtering by means of measured throughput to the user	Filed US Application
09/823,288	03/30/01		Efficient Handoffs using LTCP in Cellular Packet Networks	Filed US Application
09/826,060	04/04/01		Proxy Mobile Node Capability For Mobile IP	Filed US Application
09/841,695	04/24/01		Wireless Subscriber Network Registration System For Configurable Services	Filed US Application
09/845,133	04/30/01		High Gain Planar Scanned Array	Filed US Application
09/845,240	04/30/01		Low Data Rate Robust Address Slots Grouped With Traffic Slots Having Adjustable Modulation Types	Filed US Application
09/845,241	04/30/01		Stationary Triggered Content Pull In Wireless Access System	Filed US Application
09/847,056	05/01/01		Narrowband Gain Control Of Receiver With Digital Post-Filtering	Filed US Application
09/847,065	05/01/01		Adaptive Antenna for Use In Wireless Communication Systems	Filed US Application
09/847,859	05/02/01		Sending Voice Over Packetized Data Network With Interleaved Packets And Remote End Discard Buffering	Filed US Application
09/847,860	05/02/01		Fast Switching of Forward Link in Wireless System	Filed US Application
09/847,865	05/02/01		Firewall Protection for Wireless Users	Filed US Application
09/850,531	05/07/01		A Dual-Proxy Approach to TCP Performance Improvements Over A Wireless Interface	Filed US Application
09/852,598	05/10/01		Printed or Etched, Folding Directional Antenna	Filed US Application
09/859,001	05/16/01		Adaptive Antenna For Use in Wireless Communication Systems	Filed US Application
09/861,296	05/18/01		Foldable Directional Antenna	Filed US Application
09/871,154	05/31/01		Non-Intrusive Detection of Enhanced Capabilities at Existing Cellsites in a Wireless Data Communication System	Filed US Application
09/876,843	06/06/01		Efficient Utilization of Wireless Links for Web-based Applications	Filed US Application
09/879,807	06/12/01		Method and Apparatus for Frequency Selective Beam Forming	Filed US Application
09/898,514	07/03/01		Method For Allowing Multi-User Orthogonal And Non-Orthogonal Interoperability Of Code Channels On The Reverse Link Of A CDMA System (combined with TAN00-35)	Filed US Application
09/942,257	08/28/01		Adaptive Antenna For Use In Same Frequency Networks	Filed US Application
09/952,198	09/13/01		Method of Detection of Signals Using an Adaptive Antenna in a Peer-to-Peer Network	Filed US Application



## U.S. Trademark Electronic Search System (TESS)

TESS was last updated on Tue Nov 13 04:51:13 EST 2001

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(tantivy)[ALL]

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Current Search: S1: (tantivy)[ALL] docs: 14 occ: 40

	Serial Number	Reg. Number	Word Mark	Live/Dead Indicator
1	78055813		TANTIVY	LIVE
2	78055804		TANTIVY	LIVE
3	76195758		TSP	LIVE
4	76195757		TAU	LIVE
5	75747222		WEB ALERT	LIVE
6	75536947		I-CDMA	LIVE
7	75742704		INTERNETON	LIVE
8	75636601		TANTIVY	DEAD
9	75537196		INTERSESSION MOBILITY	DEAD
10	75776287		INSTANT MOMENTS	LIVE
11	75501113		WINDSHIFT	LIVE
12	75501112		TANLINK	LIVE
13	75500972		TANLINK	LIVE
14	75500961		WINDSHIFT	LIVE

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http://tess.uspto.gov/bin/showfield?f=toc&state=v2idqm.1.1&p\_search=searchss&p\_1=50... 11/13/01  
**PATENT**  
**REEL: 012506 FRAME: 0811**

IDC\_ITCCOMP\_00000345

**Microsoft Corporation**  
**Exhibit 1020-00009**

## INTELLECTUAL PROPERTY SECURITY AGREEMENT

This Intellectual Property Security Agreement is entered into as of November 30, 2001 by and between SILICON VALLEY BANK ("Bank") and TANTIVY COMMUNICATIONS, INC., a Delaware corporation ("Grantor").

### RECITALS

A. Bank has agreed to make certain advances of money and to extend certain financial accommodation to Grantor (the "Loans") in the amounts and manner set forth in that certain Loan and Security Agreement by and between Bank and Grantor dated of even date herewith (as the same may be amended, modified or supplemented from time to time, the "Loan Agreement"; capitalized terms used herein are used as defined in the Loan Agreement). Bank is willing to make the Loans to Grantor, but only upon the condition, among others, that Grantor shall grant to Bank a security interest in certain Copyrights, Trademarks and Patents to secure the obligations of Grantor under the Loan Agreement.

B. Pursuant to the terms of the Loan Agreement, Grantor has granted to Bank a security interest in all of Grantor's right, title and interest, whether presently existing or hereafter acquired, in, to and under all of the Collateral.

NOW, THEREFORE, for good and valuable consideration, receipt of which is hereby acknowledged, and intending to be legally bound, as collateral security for the prompt and complete payment when due of its obligations under the Loan Agreement, Grantor hereby represents, warrants, covenants and agrees as follows:

### AGREEMENT

To secure its obligations under the Loan Agreement, Grantor grants and pledges to Bank a security interest in all of Grantor's right, title and interest in, to and under its Intellectual Property Collateral (including without limitation those Copyrights, Patents and Trademarks listed on Schedules A, B and C hereto), and including without limitation all proceeds thereof (such as, by way of example but not by way of limitation, license royalties and proceeds of infringement suits), the right to sue for past, present and future infringements, all rights corresponding thereto throughout the world and all re-issues, divisions continuations, renewals, extensions and continuations-in-part thereof.

This security interest is granted in conjunction with the security interest granted to Bank under the Loan Agreement. The rights and remedies of Bank with respect to the security interest granted hereby are in addition to those set forth in the Loan Agreement and the other Loan Documents, and those which are now or hereafter available to Bank as a matter of law or equity. Each right, power and remedy of Bank provided for herein or in the Loan Agreement or any of the Loan Documents, or now or hereafter existing at law or in equity shall be cumulative and

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11/29/01

**PATENT**  
**REEL: 012506 FRAME: 0812**

**IDC\_ITCCOMP\_00000346**

**Microsoft Corporation**  
**Exhibit 1020-00010**

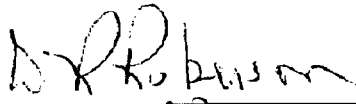
concurrent and shall be in addition to every right, power or remedy provided for herein and the exercise by Bank of any one or more of the rights, powers or remedies provided for in this Intellectual Property Security Agreement, the Loan Agreement or any of the other Loan Documents, or now or hereafter existing at law or in equity, shall not preclude the simultaneous or later exercise by any person, including Bank, of any or all other rights, powers or remedies.

IN WITNESS WHEREOF, the parties have cause this Intellectual Property Security Agreement to be duly executed by its officers thereunto duly authorized as of the first date written above.

GRANTOR:

Address of Grantor:  
1450 S. Babcock Street  
Melbourne, Florida 32901  
Attn: Lisa M. Kolb, Vice President Finance

TANTIVY COMMUNICATIONS, INC.

By:   
Name: D. R. Robinson  
Title: President/CEO  
BANK: LP Finance + CAO

Address of Bank:  
515 N. Flagler Drive  
Suite 1200  
West Palm Beach, Florida 33401  
Attn: Jeffrey P. White

SILICON VALLEY BANK

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

SILICON VALLEY BANK

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

106570\_2.DOC  
11:29:01

**PATENT**  
**REEL: 012506 FRAME: 0813**

**IDC\_ITCCOMP\_00000347**

**Microsoft Corporation**  
**Exhibit 1020-00011**

concurrent and shall be in addition to every right, power or remedy provided for herein and the exercise by Bank of any one or more of the rights, powers or remedies provided for in this Intellectual Property Security Agreement, the Loan Agreement or any of the other Loan Documents, or now or hereafter existing at law or in equity, shall not preclude the simultaneous or later exercise by any person, including Bank, of any or all other rights, powers or remedies.

IN WITNESS WHEREOF, the parties have cause this Intellectual Property Security Agreement to be duly executed by its officers thereunto duly authorized as of the first date written above.

GRANTOR:

Address of Grantor:  
1450 S. Babcock Street  
Melbourne, Florida 32901  
Attn: Lisa M. Kolb, Vice President Finance

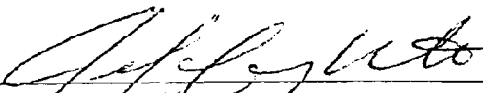
TANTIVY COMMUNICATIONS, INC.

By: \_\_\_\_\_  
Name:  
Title:

BANK:

Address of Bank:  
515 N. Flagler Drive  
Suite 1200  
West Palm Beach, Florida 33401  
Attn: Jeffrey P. White

SILICON VALLEY BANK

By:   
Name: JEFFREY WHITE  
Title: Sr. Vice President

SILICON VALLEY BANK

By: \_\_\_\_\_  
Name:  
Title:

106570\_2.DOC  
11/29/01

PATENT  
REEL: 012506 FRAME: 0814

IDC\_ITCCOMP\_00000348

Microsoft Corporation  
Exhibit 1020-00012

concurrent and shall be in addition to every right, power or remedy provided for herein and the exercise by Bank of any one or more of the rights, powers or remedies provided for in this Intellectual Property Security Agreement, the Loan Agreement or any of the other Loan Documents, or now or hereafter existing at law or in equity, shall not preclude the simultaneous or later exercise by any person, including Bank, of any or all other rights, powers or remedies.

IN WITNESS WHEREOF, the parties have cause this Intellectual Property Security Agreement to be duly executed by its officers thereunto duly authorized as of the first date written above.

GRANTOR:

Address of Grantor:  
1450 S. Babcock Street  
Melbourne, Florida 32901  
Attn: Lisa M. Kolb, Vice President Finance

TANTIVY COMMUNICATIONS, INC.

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

BANK:

Address of Bank:  
515 N. Flagler Drive  
Suite 1200  
West Palm Beach, Florida 33401  
Attn: Jeffrey P. White

SILICON VALLEY BANK

By: T. Vertin  
Name: Tom Vertin  
Title: Division Mgr.

SILICON VALLEY BANK

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

SVB\_Tantivy Communications (IP Security Agreement)  
12/07/01

**PATENT**  
**REEL: 012506 FRAME: 0815**

**IDC\_ITCCOMP\_00000349**

**Microsoft Corporation**  
**Exhibit 1020-00013**

EXHIBIT A

Copyrights

Description

Registration/  
Application  
Number

Registration/  
Application  
Date

No Copyrights

06570\_2.DOC  
1/29/01

PATENT  
REEL: 012506 FRAME: 0816

IDC\_ITCCOMP\_00000350

**Microsoft Corporation**  
**Exhibit 1020-00014**

EXHIBIT B

Patents

Description

Registration/  
Application  
Number

Registration/  
Application  
Date

See Attached

6570\_2.DOC  
29:01

PATENT  
REEL: 012506 FRAME: 0817

IDC\_ITCCOMP\_00000351

**Microsoft Corporation**  
**Exhibit 1020-00015**



EXHIBIT C

Trademarks

Description

Registration/  
Application  
Number

Registration/  
Application  
Date

See ATTACHED

'8570\_2.DOC  
'29:01

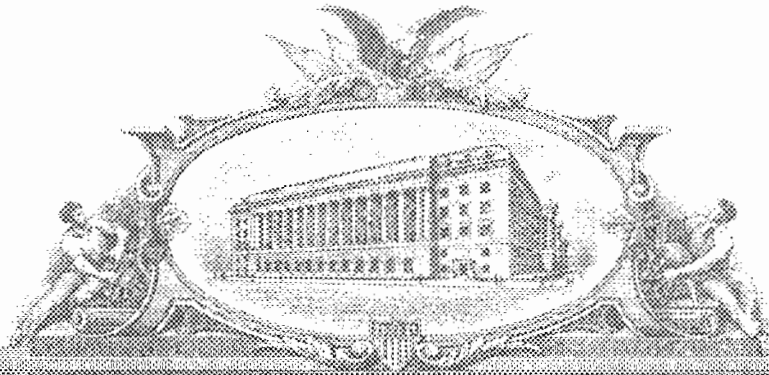
RECORDED: 01/22/2002

PATENT  
REEL: 012506 FRAME: 0818

IDC\_ITCCOMP\_00000352

**Microsoft Corporation**  
**Exhibit 1020-00016**

A 1846779



# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

April 04, 2011

THIS IS TO CERTIFY THAT ANNEXED IS A TRUE COPY FROM THE  
RECORDS OF THIS OFFICE OF A DOCUMENT RECORDED ON  
SEPTEMBER 10, 2002.

By Authority of the  
Under Secretary of Commerce for Intellectual Property  
and Director of the United States Patent and Trademark Office



*W. Montgomery*  
W. MONTGOMERY  
Certifying Officer

IDC\_ITCCOMP\_00000353

**Microsoft Corporation**  
**Exhibit 1020-00017**

FORM PTO-1619A  
Expires 06/30/99  
OMB 0651-0027

U.S. Department of Commerce  
Patent and Trademark Office  
**PATENT**

**RECORDATION FORM COVER SHEET  
PATENTS ONLY**

TO: The Commissioner of Patents and Trademarks: Please record the attached original document(s) or copy(ies).

**Submission Type**

- ☒ New  
☐ Resubmission (Non-Recordation)  
Document ID#   
☐ Correction of PTO Error  
Reel #  Frame #   
☐ Corrective Document  
Reel #  Frame #

**Conveyance Type**

- ☐ Assignment ☐ Security Agreement  
☒ License ☐ Change of Name  
☐ Merger ☐ Other   
**U.S. Government**  
(For Use ONLY by U.S. Government Agencies)  
☐ Departmental File ☐ Secret File

**Conveying Party(ies)**

☐ Mark if additional names of conveying parties attached

Name (line 1)  Tantivy Communications, Inc. Execution Date  
Month Day Year  
08122002  
Name (line 2)  1450 South Babcock Street, Melbourne, FL 32901  
**Second Party**  
Name (line 1)  Execution Date  
Month Day Year  
Name (line 2)

**Receiving Party**

☐ Mark if additional names of receiving parties attached

Name (line 1)  IPR Holdings Delaware, Inc. ☐ If document to be recorded  
is an assignment and the  
receiving party is not  
domiciled in the United  
States, an appointment  
of a domestic  
representative is attached.  
(Designation must be a  
separate document from  
Assignment.)  
Name (line 2)   
Address (line 1)  300 Delaware Avenue, Suite 527  
Address (line 2)   
Address (line 3)  Wilmington  Delaware  19801  
City State/Country Zip Code

**Domestic Representative Name and Address**

Enter for the first Receiving Party only.

Name   
Address (line 1)   
Address (line 2)   
Address (line 3)   
Address (line 4)

**FOR OFFICE USE ONLY**

Public burden reporting for this collection of information is estimated to average approximately 30 minutes per Cover Sheet to be recorded, including time for reviewing the document and gathering the data needed to complete the Cover Sheet. Send comments regarding this burden estimate to the U.S. Patent and Trademark Office, Chief Information Officer, Washington, D.C. 20231 and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Paperwork Reduction Project (0651-0027), Washington, D.C. 20503. See OMB Information Collection Budget Package 0651-0027, Patent and Trademark Assignment Practice. DO NOT SEND REQUESTS TO RECORD ASSIGNMENT DOCUMENTS TO THIS ADDRESS.

Mail documents to be recorded with required cover sheet(s) information to:  
Commissioner of Patents and Trademarks, Box Assignments, Washington, D.C. 20231

**PATENT**

700017087

REEL: 013067 FRAME: 0204

IDC\_ITCCOMP\_00000354

**Microsoft Corporation**  
**Exhibit 1020-00018**

FORM PTO-1619B  
Exp/Rev 06/30/99  
OMB 0851-0027

Page 2

U.S. Department of Commerce  
Patent and Trademark Office  
**PATENT**

<b>Correspondent Name and Address</b>	<b>Area Code and Telephone Number</b>
Name <b>KIMBERLY S. CHOTKOWSKI, ESQUIRE</b>	<b>(215) 568-6400</b>
Address (line 1) <b>VOLPE AND KOENIG, P.C.</b>	
Address (line 2) <b>SUITE 400, ONE PENN CENTER</b>	
Address (line 3) <b>1617 JOHN F. KENNEDY BLVD.</b>	
Address (line 4) <b>PHILADELPHIA, PA 19103</b>	

**Pages** Enter the total number of pages of the attached conveyance document including any attachments. # **3**

**Application Number(s) or Patent Number(s)** ☐ Mark if additional numbers attached

Enter either the Patent Application Number or the Patent Number (DO NOT ENTER BOTH numbers for the same property).

Patent Application Number(s)			Patent Number(s)		
<b>09/158,421</b>	<b>09/301,483</b>	<b>09/384,072</b>	<b>6,212,220</b>		
<b>09/263,358</b>	<b>09/301,484</b>	<b>09/388,000</b>	<b>6,301,291</b>		
<b>09/288,229</b>	<b>09/328,663</b>	<b>09/400,136</b>	<b>6,421,336</b>		

If this document is being filed together with a new Patent Application, enter the date the patent application was signed by the first named executing inventor. Month Day Year

**Patent Cooperation Treaty (PCT)**

Enter PCT application number  PCT  PCT

only if a U.S. Application Number  PCT  PCT

has not been assigned.

**Number of Properties** Enter the total number of properties involved. # **1**

**Fee Amount** Fee Amount for Properties Listed (37 CFR 3.41): \$ **40.00**

Method of Payment: Enclosed ☐ Deposit Account ☒

Deposit Account (Enter for payment by deposit account or if additional fees can be charged to the account.)

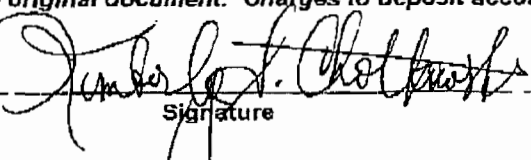
Deposit Account Number: # **09-0435**

Authorization to charge additional fees: Yes ☒ No ☐

**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. Charges to deposit account are authorized, as indicated herein.

Kimberly S. Chotkowski, Esquire

Name of Person Signing  Signature

Reg. No. 45,012

Date **9/3/02**

**PATENT**  
**REEL: 013067 FRAME: 0205**

IDC\_ITCCOMP\_00000355

**Microsoft Corporation**  
**Exhibit 1020-00019**

Tantivy Communications, Inc. has granted IPR Holdings Delaware, pursuant to a license agreement, a perpetual, exclusive worldwide license under the following submitted and attached Patent Families (including, without limitation, and all patents derived from patent applications associated with such Patent Families, including current and future filed continuations, continuations-in-part, divisionals, reissues, reexaminations, and corresponding foreign filed cases):

2G and 3G technology (with Tantivy Communications, Inc. having retained rights as to I-CDMA as to I-CDMA products with I-CDMA functionality and Remaining 3G functionality).

"Limited 3G Functionality" means standards for wireless telephony systems designed to deliver enhanced communications services included as of the Effective Date under the Third Generation Partnership Projects (3GPP1 (but excluding FDD) and 3GPP2), or under standards adopted by ARIB, ETSI, TTA, TTA, TIA, and CWTS, including amendments to these specific interface standards but excluding any additional standards that may be added by these standards setting bodies in the future.

"Remaining 3G" means the 3G standards not covered under the definition of Limited 3G Functionality.

"2G" means telecommunications standards adopted by ETSI, TIA, ARIB and other recognized standard setting bodies describing the current generation of digital wireless voice and data communications, including without limitation GSM, GPRS, EDGE, IS-54/136, PDC, PHS, DECT, and TETRA, including amendments and enhancements thereto.

"3G" means standards for wireless telephony systems designed to deliver enhanced communications services. Examples of current Third Generation Standards under development, or related standardization efforts, are the International Telecommunications Union - Radio efforts under the label IMT-2000, the specifications being developed under the Third Generation Partnership Projects (3GPP and 3GPP2), and comparable or related standards adopted by ARIB, ETSI, TTA, TIA, T1P1, CWTS, as well as other recognized standards development organizations. Third Generation Standards shall also include any *de facto* standards arising from specifications promulgated by major telecommunications operators where such specifications are directed at wireless communication systems comparable to those standards adopted, or under development, by the above-mentioned standard setting bodies.

09/447,022  
09/467,353  
09/482,241  
09/565,095  
09/574,622  
09/594,112  
09/626,784  
09/630,024  
09/691,874  
09/728,575  
09/738,934  
09/766,875  
09/771,929  
09/772,200  
09/773,252  
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09/773,255  
09/773,364  
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09/778,474  
09/778,478  
09/792,410  
09/792,637  
09/792,870  
09/802,128  
09/820,204  
09/823,288  
09/826,060  
09/841,695  
09/845,240  
09/845,241  
09/847,056  
09/847,859  
09/847,860  
09/847,865  
09/850,531  
09/871,154

2 of 3

**PATENT**  
**REEL: 013067 FRAME: 0207**

**IDC\_ITCCOMP\_00000357**

**Microsoft Corporation**  
**Exhibit 1020-00021**

09/876,843  
09/898,514  
10/119,522  
10/137,116  
10/166,576  
10/170,015  
10/196,569  
60/116,292  
60/180,598  
60/180,925  
60/181,071  
60/184,223  
60/184,364  
60/184,365  
60/219,789  
60/221,751  
60/269,024  
60/282,936  
60/288,927  
60/297,839  
60/306,062  
60/346,511  
60/346,525  
60/346,527  
60/350,569  
60/350,835

3 of 3

RECORDED: 09/10/2002

PATENT  
REEL: 013067 FRAME: 0208

IDC\_ITCCOMP\_00000358

**Microsoft Corporation**  
**Exhibit 1020-00022**



A 1836728

# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

March 31, 2011

THIS IS TO CERTIFY THAT ANNEXED IS A TRUE COPY FROM THE  
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JULY 24, 2003.

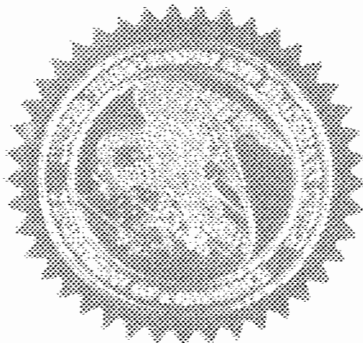
By Authority of the

Under Secretary of Commerce for Intellectual Property  
and Director of the United States Patent and Trademark Office



P. SWAIN

Certifying Officer



IDC\_ITCCOMP\_00000359

**Microsoft Corporation**  
**Exhibit 1020-00023**

07-30-2003



U.S. DEPARTMENT OF COMMERCE  
U.S. Patent and Trademark Office

102511932

To the Honorable Commissioner of Patents and Trademarks, please forward the attached original documents or copy thereof.

1. Name of conveying party(ies): 7-24-03  
Tantivy Communications, Inc.  
1450 South Babcock Street  
Melbourne, Florida 32901

Additional name(s) of conveying party(ies) attached? ☐ Yes ☒ No

3. Nature of conveyance:  
☐ Assignment ☐ Merger  
☒ Security Agreement ☐ Change of Name  
☐ Other \_\_\_\_\_

Execution Date: 7/22/03

2. Name and address of receiving party(ies)

Name: IPR Holdings Delaware, Inc.

Internal Address: \_\_\_\_\_

Street Address: 781 Third Avenue

City: King of Prussia State: PA Zip: 19406

Additional name(s) & address(es) attached? ☐ Yes ☒ No

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: \_\_\_\_\_

A. Patent Application No.(s) \_\_\_\_\_  
SEE SCHEDULE A ATTACHED

B. Patent No.(s) \_\_\_\_\_  
SEE SCHEDULE B ATTACHED

Additional numbers attached? ☒ Yes ☐ No

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: Mindy Ellis Schwartz, Esq.

Internal Address: Pepper Hamilton LLP

3000 Two Logan Square

Street Address: 18th and Arch Streets

City: Phila., State: PA Zip: 19103-2799

6. Total number of applications and patents involved: 14

7. Total fee (37 CFR 3.41).....\$ 5,720.00

☒ Enclosed

☒ Authorized to be charged to deposit account

8. Deposit account number:

16-1322 (f\$160.00 additional fee)

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9. Signature.

Mindy Ellis Schwartz

Name of Person Signing

Mindy Ellis Schwartz  
Signature

July 24, 2003

Date

Total number of pages including cover sheet, attachments, and documents: 19

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

Commissioner of Patents & Trademarks, Box Assignments  
Washington, D.C. 20231

07/29/2003 LWELLER 00000187 161322 09320663

01 FC:0021 160.00 BA 5720.00 DP

PATENT  
REEL: 014289 FRAME: 0207

IDC\_ITCCOMP\_00000360

Microsoft Corporation  
Exhibit 1020-00024

**RECORDATION FORM COVER SHEET – PATENTS ONLY**

**SCHEDULE A**

**UNITED STATES PATENT APPLICATIONS**

<b><u>Title</u></b>	<b><u>Application No.</u></b>	<b><u>Application Date</u></b>
Floating IP Address for Roaming Internet Connected Subscriber Units	09/328,663	6/9/99
Fast Acquisition of Traffic Channels for a Highly Variable Data Rate Reverse Link of a CDMA Wireless Communication System	09/730,376	12/5/00
System and Method for Maintaining Wireless Channels Over a Reverse Link of CDMA Wireless Communication System	09/997,621	11/29/01
System and Method for Maintaining Timing of Synchronization Messages Over a Reverse Link of CDMA Wireless Communication System	09/997,732	11/29/01
System and Method for Controlling Signal Strength Over a Reverse Link of CDMA Wireless Communication System	09/997,733	11/29/01
Fast Acquisition of Traffic Channels for a Highly Variable Data Rate Reverse Link of a CDMA Wireless Communication System	10/179,121	6/24/02
Maintenance of Channel Usage in a Wireless Communication System (Amended)	09/288,229	4/8/99
System and Method for Interleaving Compressed Audio/Video (A/V) Data Frames	09/847,859	5/2/01
Optimal Load-Based Wireless Session Context Transfer	09/626,784	7/27/00
Power Control Protocol for Highly Variable Data Rate Reverse Link of a Wireless Communication System	09/158,421	9/21/98
Method and Apparatus for a Spectrally Compliant Cellular Communication System	10/409,031	4/7/03
Method and Apparatus Providing an Adaptive Antenna for Use in Same Frequency Networks	09/157,736	9/21/98
Queuing Far/Far Service Requests in Wireless Network	09/773,255	1/31/01
Forward Error Correction on Multiplexed CDMA Channels Enabling High Performance Coding	09/263,358	3/5/99
Forward Error Correction Scheme for High Rate Data Exchange in a Wireless System	09/301,484	4/28/99
Method for Using a Non-Orthogonal Pilot Signal with Data Channel Interference Cancellation	09/772,200	1/29/01
Subscriber-Controlled Registration Technique in a CDMA System	10/435,927	5/12/03
Variable Rate Coding for Forward Link	09/447,022	11/22/99

PHILEGAL: #1449365 v1 (V2C5011.DOC)

**PATENT**  
**REEL: 014289 FRAME: 0208**

**IDC\_ITCCOMP\_00000361**

**Microsoft Corporation**  
**Exhibit 1020-00025**

**RECORDATION FORM COVER SHEET - PATENTS ONLY****SCHEDULE A****UNITED STATES PATENT APPLICATIONS**

<b><u>Title</u></b>	<b><u>Application No.</u></b>	<b><u>Application Date</u></b>
Time-Slotted Data Packets with a Preamble	09/845,240	4/30/01
Method and Apparatus for Adapting Antenna Array Using Received Predetermined Signal	10,282,928	10/28/02
Method and System for Economical Beam Forming in a Radio Communication System	09/791,503	2/23/01
Dual Mode Unit for Short Range, High Rate and Long Range, Lower Rate Data Communications	10/341,528	1/13/03
Dual Mode Unit for Short Range, High Rate and Long Range, Lower Rate Data Communications	10/358,082	2/3/03
Two-Tier Hi-Speed Wireless Communication Link	09/384,072	8/26/99
Minimal Maintenance Link to Support Synchronization	09/778,474	2/7/01
Method for Searching Pilot Signals to Synchronize a CDMA Receiver with an Associated Transmitter	60/184,363	2/23/00
Method for Searching Pilot Signals to Synchronize a CDMA Receiver with an Associated Transmitter	09/789,476	2/20/01
Reverse Link Pilot Integrated with Block Codes	09/728,575	11/30/00
Reverse Link Correlation Filter in Wireless Communication Systems	60/184,364	2/23/00
Reverse Link Correlation Filter in Wireless Communication Systems	09/738,934	12/15/00
Access Channel Structure for Wireless Communication System	09/766,875	1/19/01
Adaptive Compression in an Edge Router	09/774,545	1/31/01
Reverse Link Initial Power Setting Using Effective Radiated Power Message to Compute Path Loss	09/792,870	2/23/01
Reverse Link Initial Power Setting Using Effective Radiated Power Message to Compute Path Loss	10/401,115	3/26/03
Method and Apparatus for Simple PPP Handoff for Mobile Users	09/771,929	1/29/01
Grade of Service and Fairness Policy for Bandwidth Reservation System	09/778,478	2/7/01
Staggering Forward and Reverse Channel Allocation Timing	09/691,874	10/19/00
Method and Apparatus for Wireless Router Multicast	09/630,024	7/31/00
Wireless Channel Allocation in a Base Station Processor	09/565,095	5/5/00
Receiver for Time Division Multiplex System Without Explicit Time Slot Assignment	10/266,079	10/7/02

**PATENT**  
**REEL: 014289 FRAME: 0209**

**IDC\_ITCCOMP\_00000362**

**Microsoft Corporation**  
**Exhibit 1020-00026**

**RECORDATION FORM COVER SHEET – PATENTS ONLY****SCHEDULE A****UNITED STATES PATENT APPLICATIONS**

<b><u>Title</u></b>	<b><u>Application No.</u></b>	<b><u>Application Date</u></b>
Automatic Reverse Channel Assignment in a Two-Way TDM Communication System	09/574,622	5/19/00
Firewall Protection for Wireless Users	09/847,865	5/2/01
Maximizing Data Rate by Adjusting Codes and Code Rates in CDMA System	09/773,253	1/31/01
Wireless Communication System Having Mobility-Based Content Delivery	09/845,241	4/30/01
Electronic Phase Shifter with Enhanced Phase Shift Performance	09/774,534	1/31/01
Method and Apparatus for Frequency Selective Beam Forming	10/234,036	8/30/02
Adaptive Antenna for Use in Wireless Communication System	09/847,065	5/1/01
Achieving PPP Mobility Via the Mobile IP Infrastructure	09/773,364	1/31/01
Proxy Mobile Node Capability for Mobile IP	09/826,060	4/4/01
Method for Allowing Multi-User Orthogonal and Non-Orthogonal Interoperability of Code Channels	09/898,514	7/3/01
System and Method to Perform Directional Re-Scan of an Adaptive Antenna	09/776,396	2/2/01
Adaptive Antenna for Use in Wireless Communication Systems	09/859,001	5/16/01
Adaptive Antenna for Use in Wireless Communication Systems	10/441,977	5/20/03
Dynamic Internet Content Filtering by Means of Measured Throughput to the User	09/820,204	3/28/01
Improving Resources Utilization Efficiency During Hand-Off in Mobile Communication Systems	09/802,128	3/8/01
Folding Directional Antenna	10/288,256	11/4/02
Efficient Handoffs Using LTCP in Cellular Packet Networks	09/823,288	8/28/00
Link-Aware Transmission Control Protocol	09/777,557	2/5/01
Application Specific Traffic Optimization in a Wireless Link	09/777,555	2/5/01
Alternate Channel for Carrying Selected Message Types	09/775,304	2/1/01
Antenna for Array Applications	10,146,501	5/14/02
Method of Detection of Signals Using an Adaptive Antenna in a Peer-to-Peer Network	09/952,198	9/13/01
Antenna Control System and Method	09/999,172	11/30/01

**PATENT**  
**REEL: 014289 FRAME: 0210**

**IDC\_ITCCOMP\_00000363**

**Microsoft Corporation**  
**Exhibit 1020-00027**

**RECORDATION FORM COVER SHEET – PATENTS ONLY****SCHEDULE A****UNITED STATES PATENT APPLICATIONS**

<b><u>Title</u></b>	<b><u>Application No.</u></b>	<b><u>Application Date</u></b>
Directional Antenna	10,282,955	10/28/02
Narrowband Gain Control of Receiver with Digital Post-Filtering	09,847,056	5/1/01
Method and Apparatus for Detecting Rapid Changes in Signaling Path Environment	09/772,176	1/29/01
Wireless Subscriber Network Registration System for Configurable Services	09/841,695	4/24/01
Dynamic Bandwidth Allocation for Multiple Access Communications Using Session Queues	09/773,252	1/31/01
Maintenance Link Using Active/Standby Request Channels	09/775,305	2/1/01
Dual Split Proxy Gateway for Improving Throughout Performance Over a Wireless Interface	09/850,531	5/7/01
Qualifying Available Reverse Link Coding Rates from Access Channel Power Setting	09/792,637	2/23/01
High Gain Planar Scanned Array	09/845,133	4/30/01
Fast Switching of Forward Link in Wireless System	09/847,860	5/02/01
Method and Apparatus for Improving Utilization Efficiency of Wireless Link for Web-Based Applications	09/876,843	6/6/01
Use of Correlation Combination to Achieve Channel Detection	10/119,522	4/9/02
Non-Intrusive Detection of Enhanced Capabilities at Existing Cellsites in a Wireless Data Communication System	09/871,154	5/31/01
Coded Reverse Link Messages for Closed-Loop Power Control of Forward Link Control Messages	10/137,116	5/1/02
Adaptive Pointing for Use with Directional Antennas Operating in Wireless Networks	10/429,183	5/2/03
Aperiodic Array Antenna	10/357,276	1/31/03
System and Method for Coordination of Wireless Maintenance Channel Power Control	10/170,015	6/11/02
Transmittal of Heartbeat Signal at a Lower Level than Heartbeat Request	10/171,080	6/12/02
Multi-Detection of Heartbeat to Reduce Error Probability	10/171,378	6/12/02
Use of Orthogonal or New Orthogonal Codes in Reverse Link	10/196,569	7/15/02
ASIC Interface for Controlling Adaptive Antenna Array	60/361,418	3/1/02

**PATENT**  
**REEL: 014289 FRAME: 0211**

**IDC\_ITCCOMP\_00000364**

**Microsoft Corporation**  
**Exhibit 1020-00028**

**RECORDATION FORM COVER SHEET - PATENTS ONLY****SCHEDULE A****UNITED STATES PATENT APPLICATIONS**

<b><u>Title</u></b>	<b><u>Application No.</u></b>	<b><u>Application Date</u></b>
Dual Band Phased Array Employing Spatial Second Harmonics	10/292,384	11/8/02
Applying Session Services Based on Packet Flows	10/166,576	6/10/02
Random Early Detection Over Wireless Links	10/302,797	11/21/02
Component Technology Proposal for an Orthogonal Reverse Link	60/427,847	11/20/02
Techniques for Reducing Overhead in a Communications System	10/350,309	1/22/03
Techniques for Setting Up Traffic Channels in a Communications System	10/350,308	1/22/03
Beamforming Using a Backplane and Passive Antenna Element	10/348,202	1/20/03
Antenna Adaptation Comparison Method for High Mobility	60/363,669	3/11/02
Antenna Adaptation Comparison Method for High Mobility	10/386,364	3/10/03
Antenna Adaptation During Power Control Bits Times at High Mobility	60/363,214	3/8/02
Antenna Adaptation to Manage the Active Set to Manipulate Soft Hand-Off Regions	10/386,392	3/10/03
Adaptive Receive and Omnidirectional Transmit Antenna Array	10/386,393	3/10/03
Aperiodic Array Antenna	60/419,431	10/17/02
Mobile Communication Handset with Adaptive Antenna Array	10/390,531	3/14/03
Antenna Adaptation in the TIME Division Duplexing System	10/434,437	5/7/03
Adaptive Terminal Based Smart Antenna for Use in a Time Division Multiple Access (TDMA) System	60/378,908	5/7/02
Antenna Steering Scheduler for Mobile Station in Wireless Local Area Network	10/462,569	6/16/03
Covert Spatially Separated Antenna Package for Wireless Repeater	10/462,582	6/16/03
Low Cost Multiple Pattern Antenna for Use with Multiple Receiver Systems	60/411,570	9/17/02
Directional Antenna Physical Layer Steering for WLAN	60/414,947	9/30/02
Directional Antenna Physical Layer Steering for WLAN	60/415,847	10/3/02
Software Based Antenna Steering for WLAN	60/414,946	9/30/02

**PATENT**  
**REEL: 014289 FRAME: 0212**

**IDC\_ITCCOMP\_00000365**

**Microsoft Corporation**  
**Exhibit 1020-00029**



**RECORDATION FORM COVER SHEET – PATENTS ONLY**

**SCHEDULE A**

**UNITED STATES PATENT APPLICATIONS**

<b><u>Title</u></b>	<b><u>Application No.</u></b>	<b><u>Application Date</u></b>
Intelligent Interface for Controlling an Adaptive Antenna Array	60/415,265	9/30/02
Intelligent Interface for Controlling an Adaptive Antenna Array	10/378,565	3/3/03
Antenna Steering Algorithm for an 802.11 Access Point	60/479,701	6/19/03
Antenna Steering Algorithm for an 802.11 Station	60/479,640	6/19/03
Application of User Equipment Antenna to Time Division Duplex System	60/466,535	4/29/03
Repeater for Extending Range of Time Division Duplex Communication System	60/390,094	6/15/02
Maintaining a Maintenance Channel in a Reverse Link of a Wireless Communication System	10/339,183	1/8/03

**PATENT**  
**REEL: 014289 FRAME: 0213**

**IDC\_ITCCOMP\_00000366**

**Microsoft Corporation**  
**Exhibit 1020-00030**

**RECORDATION FORM COVER SHEET – PATENTS ONLY****SCHEDULE B****UNITED STATES PATENTS**

<b><u>Title</u></b>	<b><u>Patent No.</u></b>	<b><u>Grant Date</u></b>
A Protocol Conversion and Bandwidth Reduction Technique Providing Multiple nB+D ISND Basic Rate Interface Links Over a Wireless Code Division Multiple Access Communication System	6,151,332	11/21/00
Dynamic Bandwidth Allocation to Transmit a Wireless Protocol Across a Code Division Multiple Access (CDMA) Radio Link	6,081,536	6/27/00
Dynamic Frame Size Adjustment and Selective Reject on a Multi-Link Channel to Improve Effective Throughput and Bit Error Rate	6,236,647	5/22/01
Dynamic Bandwidth Allocation for Multiple Access Communications Using Buffer Urgency Factor	6,388,999	5/14/02
Fast Acquisitions of Traffic Channels for a Highly Variable Data Rate Reverse Link of a CDMA Wireless Communication System	6,222,832	4/24/01
Fast Acquisitions of Traffic Channels for a Highly Variable Data Rate Reverse Link of a CDMA Wireless Communication System	6,452,913	9/17/02
Arbitration Method for High Power Transmissions in a Code Division Multiple Access System	6,456,835	9/24/02
Method and Apparatus for a Spectrally Compliant Cellular Communication System	6,545,990	4/8/03
Adaptive Antenna for Use in Same Frequency Networks	6,100,843	8/8/00
A Method of Use for an Adaptive Antenna in Same Frequency Networks (As Amended)	6,304,215	10/16/01
Adaptive Antenna for Use in Same Frequency Networks	6,404,386	6/11/02
Adaptive Antenna for Use in Same Frequency Networks	6,518,920	2/11/03
Packaging Timeout Spoofing in a Wireless Data Communications Network	6,553,032	4/22/03
Antenna Array Structure Stacked Over Printed Wiring Board with Beamforming Components	6,362,790	3/26/02
Subscriber-Controlled Registration Technique in a CDMA System	6,563,809	5/13/03
Method and Apparatus for Creating Non-Interfacing Signals Using Non-Orthogonal Techniques	6,212,220	4/3/01

PHLEGAL: #1449365 v1 (V2CS011.DOC)

**PATENT  
REEL: 014289 FRAME: 0214****IDC\_ITCCOMP\_00000367****Microsoft Corporation  
Exhibit 1020-00031**

**RECORDATION FORM COVER SHEET – PATENTS ONLY****SCHEDULE B****UNITED STATES PATENTS**

<b><u>Title</u></b>	<b><u>Patent No.</u></b>	<b><u>Grant Date</u></b>
Variable Rate Orthogonally Coded Reverse Link Structure	6,421,336	7/16/02
Method and Apparatus for Adapting Antenna Array to Reduce Adaptation Time While Increasing Array Performance	6,473,036	10/29/02
Dual Mode Subscriber Unit for Short Range, High Rate and Long Range, Lower Rate Data Communications	6,526,034	2/25/03
Pilot Symbol Assisted Modulation and Demodulation in Wireless Communication Systems	6,301,291	10/9/01
Antenna Array with Housing	6,239,756	5/29/01
Access Probe Acknowledgment Including Collision Detection to Avoid Oversetting Initial Power Level	6,545,994	4/8/03
Stacked Dipole Antenna for Use in Wireless Communications System	6,396,456	5/28/02
Receiver for Time Division Multiplex System Without Explicit Time Slot Assignment	6,463,074	10/8/02
Method and Apparatus for Frequency Selective Beam Forming	6,448,938	9/10/02
Method and Apparatus for Antenna Control in a Communications Network	6,400,317	6/4/02
Adaptive Antenna for Use in Wireless Communication Systems	6,515,635	2/4/03
Printed or Etched Folding Directional Antenna	6,476,773	11/5/02
Monopole Antenna for Array Applications	6,417,806	7/9/02
Low Profile Dipole Antenna for Use in Wireless Communications Systems	6,369,771	4/9/02
Closely Spaced Antenna Array	6,369,770	4/9/02
Foldable Directional Antenna	6,480,157	11/12/02
Clarification of the Dynamic Bandwidth Allocation for Multiple Access Communications using Buffer Urgency Factor	6,542,481	4/1/03
Dynamic Bandwidth Allocation To Transmit A Wireless ISDN Protocol Across A Code Division Multiple Access (CDMA) Radio Link	6,526,281	2/25/03

**PATENT****REEL: 014289 FRAME: 0215****IDC\_ITCCOMP\_00000368****Microsoft Corporation  
Exhibit 1020-00032**

## NOTICE OF INTELLECTUAL PROPERTY SECURITY AGREEMENT

NOTICE dated the 22<sup>nd</sup> day of July, 2003, from Tantivy Communications, Inc., a Delaware corporation having a mailing address at 1450 South Babcock Street, Melbourne, Florida 32901 ("Debtor"), to and in favor of IPR Holdings Delaware, Inc., a Delaware corporation having a mailing address at 781 Third Avenue, King of Prussia, Pennsylvania 19406 ("Secured Party").

WHEREAS, Debtor is the owner of intellectual property as listed on Schedules A and Schedule B hereto; and

WHEREAS, Secured Party has agreed to extend certain financial accommodations to Debtor under that certain Security Agreement dated April 3, 2003, as amended on July 10, 2003 and as may be amended in the future (the "Security Agreement"), on condition that the Debtor pledges and grants to Secured Party as collateral for the obligations of the Debtor to Secured Party, a security interest and lien in and to such intellectual property collateral and application therefore described above, including the registrations thereof, the goodwill associated therewith and all other related claims and rights as more fully described in a certain Security Agreement in favor of Secured Party ("Intellectual Property");

NOW THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, and as security for the due and timely payment and performance of the obligations, Debtor hereby pledges, grants and collaterally assigns to Secured Party a security interest and lien in and to all rights, title and interest in and to the aforesaid Intellectual Property, and gives notice of such security interest and the existence of such Security Agreement providing therefor.

Executed as of the date first above written.

TANTIVY COMMUNICATIONS, INC.

By: 

Name: Lisa M. Kolb

Title: President & CEO

PHLEGAL: #1445015 v1 (%YZB011.DOC)

PATENT  
REEL: 014289 FRAME: 0216

IDC\_ITCCOMP\_00000369

Microsoft Corporation  
Exhibit 1020-00033

STATE OF Florida :  
COUNTY OF Brevard : S.S.

On this 22nd day of July, 2003 before me, a Notary Public for the said County and State, personally appeared LISA M. KOLB known to me, and who, being first by me duly sworn, deposed and said that s/he is the PRESIDENT/CEO of Tantivy Communications, Inc. and that s/he executed said instrument on behalf of said corporation by authority of its Board of Directors, and that s/he acknowledged said instrument to be the free act and deed of said corporation.

Kathleen K. Renyo  
Notary Public

My Commission expires:

May 3, 2005

(Notarial Seal)



PHLEGAL: #1445015 v1 (%VZB011.DOC)

PATENT  
REEL: 014289 FRAME: 0217

IDC\_ITCCOMP\_00000370

Microsoft Corporation  
Exhibit 1020-00034

3000 Two Logan Square  
Eighteenth and Arch Streets  
Philadelphia, PA 19103-2799  
215.981.4000  
Fax 215.981.4750

215.981.4714  
schwartzme@pepperlaw.com

July 24, 2003

**EXPRESS MAIL NO. EL825395677US**

Commissioner for Patents and Trademarks  
BOX ASSIGNMENT  
Washington, DC 20231

Re: Recordation of Notice of Intellectual Property Security Agreement

Sir/Madam:


I am enclosing the following documents:

1. An original and one copy of Recordation Form Cover Sheet – Patents  
Only to record the Notice of Intellectual Property Security Agreement against the patents listed  
on Schedules A and B attached thereto;
2. A copy of the Notice of Intellectual Property Security Agreement between  
Tantivy Communications, Inc. and IPR Holdings Delaware, Inc., dated July 22, 2003; and
3. This Firm's check in the amount of \$5,720.00 to cover the required filing  
fee. The Commissioner is authorized to deduct the additional filing fee of \$160.00 from Deposit  
Account No. 16-1322.

Please acknowledge receipt of this filing by time stamping and returning the  
enclosed self-addressed postcard.

Thank you for your attention to this matter.

Sincerely yours,

  
Mindy Ellis Schwartz

Enclosures

PHLEGAL: #1449686 v1 (V2L2011.DOC)

Philadelphia	Washington, D.C.	Detroit	New York	Pittsburgh
Berwyn	Cherry Hill	Harrisburg	Princeton	Tysons Corner
				Wilmington

www.pepperlaw.com

**PATENT**  
**REEL: 014289 FRAME: 0218**

IDC\_ITCCOMP\_00000371

**Microsoft Corporation**  
**Exhibit 1020-00035**

**RE:   Recordation Cover Sheet (Patents Only)**  
**Notice of Intellectual Property Security Agreement between Tantivy**  
**Communications, Inc. and IPR Holdings Delaware, Inc. dated July 22, 2003**

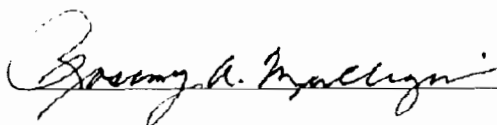
"EXPRESS MAIL" MAILING LABEL NUMBER: EL825395677US

DATE OF DEPOSIT:           July 24, 2003

I HEREBY CERTIFY THAT THIS PAPER OR FEE IS BEING DEPOSITED WITH THE  
UNITED STATES POSTAL SERVICE "EXPRESS MAIL POST OFFICE TO ADDRESSEE"  
SERVICE UNDER 37 CFR 1.10 ON THE DATE INDICATED ABOVE AND IS  
ADDRESSED TO COMMISSIONER FOR PATENTS AND TRADEMARKS, BOX  
ASSIGNMENTS, WASHINGTON, DC 20231.

Rosemary A. Mulligan

(Typed or printed name of person mailing paper or fee)



(Signature of person mailing paper or fee)

PHLEGAL: #1451114 v1 (V3\_Q011.DOC)

**PATENT**  
**REEL: 014289 FRAME: 0219**

IDC\_ITCCOMP\_00000372

**Microsoft Corporation**  
**Exhibit 1020-00036**

**SCHEDULE A****UNITED STATES PATENT APPLICATIONS**

<b><u>Title</u></b>	<b><u>Application No.</u></b>	<b><u>Application Date</u></b>
Floating IP Address for Roaming Internet Connected Subscriber Units	09/328,663	6/9/99
Fast Acquisition of Traffic Channels for a Highly Variable Data Rate Reverse Link of a CDMA Wireless Communication System	09/730,376	12/5/00
System and Method for Maintaining Wireless Channels Over a Reverse Link of CDMA Wireless Communication System	09/997,621	11/29/01
System and Method for Maintaining Timing of Synchronization Messages Over a Reverse Link of CDMA Wireless Communication System	09/997,732	11/29/01
System and Method for Controlling Signal Strength Over a Reverse Link of CDMA Wireless Communication System	09/997,733	11/29/01
Fast Acquisition of Traffic Channels for a Highly Variable Data Rate Reverse Link of a CDMA Wireless Communication System	10/179,121	6/24/02
Maintenance of Channel Usage in a Wireless Communication System (Amended)	09/288,229	4/8/99
System and Method for Interleaving Compressed Audio/Video (A/V) Data Frames	09/847,859	5/2/01
Optimal Load-Based Wireless Session Context Transfer	09/626,784	7/27/00
Power Control Protocol for Highly Variable Data Rate Reverse Link of a Wireless Communication System	09/158,421	9/21/98
Method and Apparatus for a Spectrally Compliant Cellular Communication System	10/409,031	4/7/03
Method and Apparatus Providing an Adaptive Antenna for Use in Same Frequency Networks	09/157,736	9/21/98
Queuing Far/Far Service Requests in Wireless Network	09/773,255	1/31/01
Forward Error Correction on Multiplexed CDMA Channels Enabling High Performance Coding	09/263,358	3/5/99
Forward Error Correction Scheme for High Rate Data Exchange in a Wireless System	09/301,484	4/28/99
Method for Using a Non-Orthogonal Pilot Signal with Data Channel Interference Cancellation	09/772,200	1/29/01
Subscriber-Controlled Registration Technique in a CDMA System	10/435,927	5/12/03
Variable Rate Coding for Forward Link	09/447,022	11/22/99
Time-Slotted Data Packets with a Preamble	09/845,240	4/30/01

**PATENT**  
**REEL: 014289 FRAME: 0220**

IDC\_ITCCOMP\_00000373

**Microsoft Corporation**  
**Exhibit 1020-00037**



**SCHEDULE A (Continued)****UNITED STATES PATENT APPLICATIONS**

<b><u>Title</u></b>	<b><u>Application No.</u></b>	<b><u>Application Date</u></b>
Method and Apparatus for Adapting Antenna Array Using Received Predetermined Signal	10,282,928	10/28/02
Method and System for Economical Beam Forming in a Radio Communication System	09/791,503	2/23/01
Dual Mode Unit for Short Range, High Rate and Long Range, Lower Rate Data Communications	10/341,528	1/13/03
Dual Mode Unit for Short Range, High Rate and Long Range, Lower Rate Data Communications	10/358,082	2/3/03
Two-Tier Hi-Speed Wireless Communication Link	09/384,072	8/26/99
Minimal Maintenance Link to Support Synchronization	09/778,474	2/7/01
Method for Searching Pilot Signals to Synchronize a CDMA Receiver with an Associated Transmitter	60/184,363	2/23/00
Method for Searching Pilot Signals to Synchronize a CDMA Receiver with an Associated Transmitter	09/789,476	2/20/01
Reverse Link Pilot Integrated with Block Codes	09/728,575	11/30/00
Reverse Link Correlation Filter in Wireless Communication Systems	60/184,364	2/23/00
Reverse Link Correlation Filter in Wireless Communication Systems	09/738,934	12/15/00
Access Channel Structure for Wireless Communication System	09/766,875	1/19/01
Adaptive Compression in an Edge Router	09/774,545	1/31/01
Reverse Link Initial Power Setting Using Effective Radiated Power Message to Compute Path Loss	09/792,870	2/23/01
Reverse Link Initial Power Setting Using Effective Radiated Power Message to Compute Path Loss	10/401,115	3/26/03
Method and Apparatus for Simple PPP Handoff for Mobile Users	09/771,929	1/29/01
Grade of Service and Fairness Policy for Bandwidth Reservation System	09/778,478	2/7/01
Staggering Forward and Reverse Channel Allocation Timing	09/691,874	10/19/00
Method and Apparatus for Wireless Router Multicast	09/630,024	7/31/00
Wireless Channel Allocation in a Base Station Processor	09/565,095	5/5/00
Receiver for Time Division Multiplex System Without Explicit Time Slot Assignment	10/266,079	10/7/02
Automatic Reverse Channel Assignment in a Two-Way TDM Communication System	09/574,622	5/19/00
Firewall Protection for Wireless Users	09/847,865	5/2/01

**SCHEDULE A (Continued)****UNITED STATES PATENT APPLICATIONS**

<b>Title</b>	<b>Application No.</b>	<b>Application Date</b>
Maximizing Data Rate by Adjusting Codes and Code Rates in CDMA System	09/773,253	1/31/01
Wireless Communication System Having Mobility-Based Content Delivery	09/845,241	4/30/01
Electronic Phase Shifter with Enhanced Phase Shift Performance	09/774,534	1/31/01
Method and Apparatus for Frequency Selective Beam Forming	10/234,036	8/30/02
Adaptive Antenna for Use in Wireless Communication System	09/847,065	5/1/01
Achieving PPP Mobility Via the Mobile IP Infrastructure	09/773,364	1/31/01
Proxy Mobile Node Capability for Mobile IP	09/826,060	4/4/01
Method for Allowing Multi-User Orthogonal and Non-Orthogonal Interoperability of Code Channels	09/898,514	7/3/01
System and Method to Perform Directional Re-Scan of an Adaptive Antenna	09/776,396	2/2/01
Adaptive Antenna for Use in Wireless Communication Systems	09/859,001	5/16/01
Adaptive Antenna for Use in Wireless Communication Systems	10/441,977	5/20/03
Dynamic Internet Content Filtering by Means of Measured Throughput to the User	09/820,204	3/28/01
Improving Resources Utilization Efficiency During Hand-Off in Mobile Communication Systems	09/802,128	3/8/01
Folding Directional Antenna	10/288,256	11/4/02
Efficient Handoffs Using LTCP in Cellular Packet Networks	09/823,288	8/28/00
Link-Aware Transmission Control Protocol	09/777,557	2/5/01
Application Specific Traffic Optimization in a Wireless Link	09/777,555	2/5/01
Alternate Channel for Carrying Selected Message Types	09/775,304	2/1/01
Antenna for Array Applications	10,146,501	5/14/02
Method of Detection of Signals Using an Adaptive Antenna in a Peer-to-Peer Network	09/952,198	9/13/01
Antenna Control System and Method	09/999,172	11/30/01
Directional Antenna	10,282,955	10/28/02
Narrowband Gain Control of Receiver with Digital Post-Filtering	09,847,056	5/1/01
Method and Apparatus for Detecting Rapid Changes in Signaling Path Environment	09/772,176	1/29/01

**PATENT**  
**REEL: 014289 FRAME: 0222**

IDC\_ITCCOMP\_00000375

**Microsoft Corporation**  
**Exhibit 1020-00039**

**SCHEDULE A (Continued)**

**UNITED STATES PATENT APPLICATIONS**

<b>Title</b>	<b>Application No.</b>	<b>Application Date</b>
Wireless Subscriber Network Registration System for Configurable Services	09/841,695	4/24/01
Dynamic Bandwidth Allocation for Multiple Access Communications Using Session Queues	09/773,252	1/31/01
Maintenance Link Using Active/Standby Request Channels	09/775,305	2/1/01
Dual Split Proxy Gateway for Improving Throughout Performance Over a Wireless Interface	09/850,531	5/7/01
Qualifying Available Reverse Link Coding Rates from Access Channel Power Setting	09/792,637	2/23/01
High Gain Planar Scanned Array	09/845,133	4/30/01
Fast Switching of Forward Link in Wireless System	09/847,860	5/02/01
Method and Apparatus for Improving Utilization Efficiency of Wireless Link for Web-Based Applications	09/876,843	6/6/01
Use of Correlation Combination to Achieve Channel Detection	10/119,522	4/9/02
Non-Intrusive Detection of Enhanced Capabilities at Existing Cellsites in a Wireless Data Communication System	09/871,154	5/31/01
Coded Reverse Link Messages for Closed-Loop Power Control of Forward Link Control Messages	10/137,116	5/1/02
Adaptive Pointing for Use with Directional Antennas Operating in Wireless Networks	10/429,183	5/2/03
Aperiodic Array Antenna	10/357,276	1/31/03
System and Method for Coordination of Wireless Maintenance Channel Power Control	10/170,015	6/11/02
Transmittal of Heartbeat Signal at a Lower Level than Heartbeat Request	10/171,080	6/12/02
Multi-Detection of Heartbeat to Reduce Error Probability	10/171,378	6/12/02
Use of Orthogonal or New Orthogonal Codes in Reverse Link	10/196,569	7/15/02
ASIC Interface for Controlling Adaptive Antenna Array	60/361,418	3/1/02
Dual Band Phased Array Employing Spatial Second Harmonics	10/292,384	11/8/02
Applying Session Services Based on Packet Flows	10/166,576	6/10/02
Random Early Detection Over Wireless Links	10/302,797	11/21/02
Component Technology Proposal for an Orthogonal Reverse Link	60/427,847	11/20/02

**SCHEDULE A (Continued)**

**UNITED STATES PATENT APPLICATIONS**

<b><u>Title</u></b>	<b><u>Application No.</u></b>	<b><u>Application Date</u></b>
Techniques for Reducing Overhead in a Communications System	10/350,309	1/22/03
Techniques for Setting Up Traffic Channels in a Communications System	10/350,308	1/22/03
Beamforming Using a Backplane and Passive Antenna Element	10/348,202	1/20/03
Antenna Adaptation Comparison Method for High Mobility	60/363,669	3/11/02
Antenna Adaptation Comparison Method for High Mobility	10/386,364	3/10/03
Antenna Adaptation During Power Control Bits Times at High Mobility	60/363,214	3/8/02
Antenna Adaptation to Manage the Active Set to Manipulate Soft Hand-Off Regions	10/386,392	3/10/03
Adaptive Receive and Omnidirectional Transmit Antenna Array	10/386,393	3/10/03
Aperiodic Array Antenna	60/419,431	10/17/02
Mobile Communication Handset with Adaptive Antenna Array	10/390,531	3/14/03
Antenna Adaptation in the TIME Division Duplexing System	10/434,437	5/7/03
Adaptive Terminal Based Smart Antenna for Use in a Time Division Multiple Access (TDMA) System	60/378,908	5/7/02
Antenna Steering Scheduler for Mobile Station in Wireless Local Area Network	10/462,569	6/16/03
Covert Spatially Separated Antenna Package for Wireless Repeater	10/462,582	6/16/03
Low Cost Multiple Pattern Antenna for Use with Multiple Receiver Systems	60/411,570	9/17/02
Directional Antenna Physical Layer Steering for WLAN	60/414,947	9/30/02
Directional Antenna Physical Layer Steering for WLAN	60/415,847	10/3/02
Software Based Antenna Steering for WLAN	60/414,946	9/30/02
Intelligent Interface for Controlling an Adaptive Antenna Array	60/415,265	9/30/02
Intelligent Interface for Controlling an Adaptive Antenna Array	10/378,565	3/3/03
Antenna Steering Algorithm for an 802.11 Access Point	60/479,701	6/19/03
Antenna Steering Algorithm for an 802.11 Station	60/479,640	6/19/03

**SCHEDULE A (Continued)**

**UNITED STATES PATENT APPLICATIONS**

<b><u>Title</u></b>	<b><u>Application No.</u></b>	<b><u>Application Date</u></b>
Application of User Equipment Antenna to Time Division Duplex System	60/466,535	4/29/03
Repeater for Extending Range of Time Division Duplex Communication System	60/390,094	6/15/02
Maintaining a Maintenance Channel in a Reverse Link of a Wireless Communication System	10/339,183	01/08/03

**SCHEDULE A (Continued)****UNITED STATES PATENTS**

<b>Title</b>	<b>Patent No.</b>	<b>Grant Date</b>
A Protocol Conversion and Bandwidth Reduction Technique Providing Multiple nB+D ISND Basic Rate Interface Links Over a Wireless Code Division Multiple Access Communication System	6,151,332	11/21/00
Dynamic Bandwidth Allocation to Transmit a Wireless Protocol Across a Code Division Multiple Access (CDMA) Radio Link	6,081,536	6/27/00
Dynamic Frame Size Adjustment and Selective Reject on a Multi-Link Channel to Improve Effective Throughput and Bit Error Rate	6,236,647	5/22/01
Dynamic Bandwidth Allocation for Multiple Access Communications Using Buffer Urgency Factor	6,388,999	5/14/02
Fast Acquisitions of Traffic Channels for a Highly Variable Data Rate Reverse Link of a CDMA Wireless Communication System	6,222,832	4/24/01
Fast Acquisitions of Traffic Channels for a Highly Variable Data Rate Reverse Link of a CDMA Wireless Communication System	6,452,913	9/17/02
Arbitration Method for High Power Transmissions in a Code Division Multiple Access System	6,456,835	9/24/02
Method and Apparatus for a Spectrally Compliant Cellular Communication System	6,545,990	4/8/03
Adaptive Antenna for Use in Same Frequency Networks	6,100,843	8/8/00
A Method of Use for an Adaptive Antenna in Same Frequency Networks (As Amended)	6,304,215	10/16/01
Adaptive Antenna for Use in Same Frequency Networks	6,404,386	6/11/02
Adaptive Antenna for Use in Same Frequency Networks	6,518,920	2/11/03
Packaging Timeout Spoofing in a Wireless Data Communications Network	6,553,032	4/22/03
Antenna Array Structure Stacked Over Printed Wiring Board with Beamforming Components	6,362,790	3/26/02
Subscriber-Controlled Registration Technique in a CDMA System	6,563,809	5/13/03
Method and Apparatus for Creating Non-Interfacing Signals Using Non-Orthogonal Techniques	6,212,220	4/3/01

**SCHEDULE A (Continued)**

**UNITED STATES PATENTS**

<b><u>Title</u></b>	<b><u>Patent No.</u></b>	<b><u>Grant Date</u></b>
Variable Rate Orthogonally Coded Reverse Link Structure	6,421,336	7/16/02
Method and Apparatus for Adapting Antenna Array to Reduce Adaptation Time While Increasing Array Performance	6,473,036	10/29/02
Dual Mode Subscriber Unit for Short Range, High Rate and Long Range, Lower Rate Data Communications	6,526,034	2/25/03
Pilot Symbol Assisted Modulation and Demodulation in Wireless Communication Systems	6,301,291	10/9/01
Antenna Array with Housing	6,239,756	5/29/01
Access Probe Acknowledgment Including Collision Detection to Avoid Oversetting Initial Power Level	6,545,994	4/8/03
Stacked Dipole Antenna for Use in Wireless Communications System	6,396,456	5/28/02
Receiver for Time Division Multiplex System Without Explicit Time Slot Assignment	6,463,074	10/8/02
Method and Apparatus for Frequency Selective Beam Forming	6,448,938	9/10/02
Method and Apparatus for Antenna Control in a Communications Network	6,400,317	6/4/02
Adaptive Antenna for Use in Wireless Communication Systems	6,515,635	2/4/03
Printed or Etched Folding Directional Antenna	6,476,773	11/5/02
Monopole Antenna for Array Applications	6,417,806	7/9/02
Low Profile Dipole Antenna for Use in Wireless Communications Systems	6,369,771	4/9/02
Closely Spaced Antenna Array	6,369,770	4/9/02
Foldable Directional Antenna	6,480,157	11/12/02
Clarification of the Dynamic Bandwidth Allocation for Multiple Access Communications using Buffer Urgency Factor	6,542,481	04/01/03
Dynamic Bandwidth Allocation To Transmit A Wireless ISDN Protocol Across A Code Division Multiple Access (CDMA) Radio Link	6,526,281	02/25/03

**SCHEDULE B**

**UNITED STATES TRADEMARKS**

<b><u>Mark</u></b>	<b><u>Reg./Serial No.</u></b>	<b><u>Reg./Filing Date</u></b>
I-CDMA	2,733,597	7/1/03
TANTIVY	2,724,112	6/10/03
TANTIVY and Design	2,724,111	6/10/03
TSP	76/195,758	1/18/01



**RECORDATION FORM COVER SHEET – PATENTS ONLY****SCHEDULE A****UNITED STATES PATENT APPLICATIONS**

<b><u>Title</u></b>	<b><u>Application No.</u></b>	<b><u>Application Date</u></b>
Floating IP Address for Roaming Internet Connected Subscriber Units	09/328,663	6/9/99
Fast Acquisition of Traffic Channels for a Highly Variable Data Rate Reverse Link of a CDMA Wireless Communication System	09/730,376	12/5/00
System and Method for Maintaining Wireless Channels Over a Reverse Link of CDMA Wireless Communication System	09/997,621	11/29/01
System and Method for Maintaining Timing of Synchronization Messages Over a Reverse Link of CDMA Wireless Communication System	09/997,732	11/29/01
System and Method for Controlling Signal Strength Over a Reverse Link of CDMA Wireless Communication System	09/997,733	11/29/01
Fast Acquisition of Traffic Channels for a Highly Variable Data Rate Reverse Link of a CDMA Wireless Communication System	10/179,121	6/24/02
Maintenance of Channel Usage in a Wireless Communication System (Amended)	09/288,229	4/8/99
System and Method for Interleaving Compressed Audio/Video (A/V) Data Frames	09/847,859	5/2/01
Optimal Load-Based Wireless Session Context Transfer	09/626,784	7/27/00
Power Control Protocol for Highly Variable Data Rate Reverse Link of a Wireless Communication System	09/158,421	9/21/98
Method and Apparatus for a Spectrally Compliant Cellular Communication System	10/409,031	4/7/03
Method and Apparatus Providing an Adaptive Antenna for Use in Same Frequency Networks	09/157,736	9/21/98
Queuing Far/Far Service Requests in Wireless Network	09/773,255	1/31/01
Forward Error Correction on Multiplexed CDMA Channels Enabling High Performance Coding	09/263,358	3/5/99
Forward Error Correction Scheme for High Rate Data Exchange in a Wireless System	09/301,484	4/28/99
Method for Using a Non-Orthogonal Pilot Signal with Data Channel Interference Cancellation	09/772,200	1/29/01
Subscriber-Controlled Registration Technique in a CDMA System	10/435,927	5/12/03
Variable Rate Coding for Forward Link	09/447,022	11/22/99

PHLEGAL: #1449365 v1 (V2C5011.DOC)

**PATENT  
REEL: 014289 FRAME: 0229****IDC\_ITCCOMP\_00000382****Microsoft Corporation  
Exhibit 1020-00046**

**RECORDATION FORM COVER SHEET - PATENTS ONLY****SCHEDULE A****UNITED STATES PATENT APPLICATIONS**

<b><u>Title</u></b>	<b><u>Application No.</u></b>	<b><u>Application Date</u></b>
Time-Slotted Data Packets with a Preamble	09/845,240	4/30/01
Method and Apparatus for Adapting Antenna Array Using Received Predetermined Signal	10,282,928	10/28/02
Method and System for Economical Beam Forming in a Radio Communication System	09/791,503	2/23/01
Dual Mode Unit for Short Range, High Rate and Long Range, Lower Rate Data Communications	10/341,528	1/13/03
Dual Mode Unit for Short Range, High Rate and Long Range, Lower Rate Data Communications	10/358,082	2/3/03
Two-Tier Hi-Speed Wireless Communication Link	09/384,072	8/26/99
Minimal Maintenance Link to Support Synchronization	09/778,474	2/7/01
Method for Searching Pilot Signals to Synchronize a CDMA Receiver with an Associated Transmitter	60/184,363	2/23/00
Method for Searching Pilot Signals to Synchronize a CDMA Receiver with an Associated Transmitter	09/789,476	2/20/01
Reverse Link Pilot Integrated with Block Codes	09/728,575	11/30/00
Reverse Link Correlation Filter in Wireless Communication Systems	60/184,364	2/23/00
Reverse Link Correlation Filter in Wireless Communication Systems	09/738,934	12/15/00
Access Channel Structure for Wireless Communication System	09/766,875	1/19/01
Adaptive Compression in an Edge Router	09/774,545	1/31/01
Reverse Link Initial Power Setting Using Effective Radiated Power Message to Compute Path Loss	09/792,870	2/23/01
Reverse Link Initial Power Setting Using Effective Radiated Power Message to Compute Path Loss	10/401,115	3/26/03
Method and Apparatus for Simple PPP Handoff for Mobile Users	09/771,929	1/29/01
Grade of Service and Fairness Policy for Bandwidth Reservation System	09/778,478	2/7/01
Staggering Forward and Reverse Channel Allocation Timing	09/691,874	10/19/00
Method and Apparatus for Wireless Router Multicast	09/630,024	7/31/00
Wireless Channel Allocation in a Base Station Processor	09/565,095	5/5/00
Receiver for Time Division Multiplex System Without Explicit Time Slot Assignment	10/266,079	10/7/02

**PATENT**  
**REEL: 014289 FRAME: 0230**

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**Microsoft Corporation**  
**Exhibit 1020-00047**

**RECORDATION FORM COVER SHEET - PATENTS ONLY****SCHEDULE A****UNITED STATES PATENT APPLICATIONS**

<b><u>Title</u></b>	<b><u>Application No.</u></b>	<b><u>Application Date</u></b>
Automatic Reverse Channel Assignment in a Two-Way TDM Communication System	09/574,622	5/19/00
Firewall Protection for Wireless Users	09/847,865	5/2/01
Maximizing Data Rate by Adjusting Codes and Code Rates in CDMA System	09/773,253	1/31/01
Wireless Communication System Having Mobility-Based Content Delivery	09/845,241	4/30/01
Electronic Phase Shifter with Enhanced Phase Shift Performance	09/774,534	1/31/01
Method and Apparatus for Frequency Selective Beam Forming	10/234,036	8/30/02
Adaptive Antenna for Use in Wireless Communication System	09/847,065	5/1/01
Achieving PPP Mobility Via the Mobile IP Infrastructure	09/773,364	1/31/01
Proxy Mobile Node Capability for Mobile IP	09/826,060	4/4/01
Method for Allowing Multi-User Orthogonal and Non-Orthogonal Interoperability of Code Channels	09/898,514	7/3/01
System and Method to Preform Directional Re-Scan of an Adaptive Antenna	09/776,396	2/2/01
Adaptive Antenna for Use in Wireless Communication Systems	09/859,001	5/16/01
Adaptive Antenna for Use in Wireless Communication Systems	10/441,977	5/20/03
Dynamic Internet Content Filtering by Means of Measured Throughput to the User	09/820,204	3/28/01
Improving Resources Utilization Efficiency During Hand-Off in Mobile Communication Systems	09/802,128	3/8/01
Folding Directional Antenna	10/288,256	11/4/02
Efficient Handoffs Using LTCP in Cellular Packet Networks	09/823,288	8/28/00
Link-Aware Transmission Control Protocol	09/777,557	2/5/01
Application Specific Traffic Optimization in a Wireless Link	09/777,555	2/5/01
Alternate Channel for Carrying Selected Message Types	09/775,304	2/1/01
Antenna for Array Applications	10,146,501	5/14/02
Method of Detection of Signals Using an Adaptive Antenna in a Peer-to-Peer Network	09/952,198	9/13/01
Antenna Control System and Method	09/999,172	11/30/01

**PATENT**  
**REEL: 014289 FRAME: 0231**

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**Microsoft Corporation**  
**Exhibit 1020-00048**

**RECORDATION FORM COVER SHEET - PATENTS ONLY**

**SCHEDULE A**

**UNITED STATES PATENT APPLICATIONS**

<b>Title</b>	<b>Application No.</b>	<b>Application Date</b>
Directional Antenna	10,282,955	10/28/02
Narrowband Gain Control of Receiver with Digital Post-Filtering	09,847,056	5/1/01
Method and Apparatus for Detecting Rapid Changes in Signaling Path Environment	09/772,176	1/29/01
Wireless Subscriber Network Registration System for Configurable Services	09/841,695	4/24/01
Dynamic Bandwidth Allocation for Multiple Access Communications Using Session Queues	09/773,252	1/31/01
Maintenance Link Using Active/Standby Request Channels	09/775,305	2/1/01
Dual Split Proxy Gateway for Improving Throughout Performance Over a Wireless Interface	09/850,531	5/7/01
Qualifying Available Reverse Link Coding Rates from Access Channel Power Setting	09/792,637	2/23/01
High Gain Planar Scanned Array	09/845,133	4/30/01
Fast Switching of Forward Link in Wireless System	09/847,860	5/02/01
Method and Apparatus for Improving Utilization Efficiency of Wireless Link for Web-Based Applications	09/876,843	6/6/01
Use of Correlation Combination to Achieve Channel Detection	10/119,522	4/9/02
Non-Intrusive Detection of Enhanced Capabilities at Existing Cellsites in a Wireless Data Communication System	09/871,154	5/31/01
Coded Reverse Link Messages for Closed-Loop Power Control of Forward Link Control Messages	10/137,116	5/1/02
Adaptive Pointing for Use with Directional Antennas Operating in Wireless Networks	10/429,183	5/2/03
Aperiodic Array Antenna	10/357,276	1/31/03
System and Method for Coordination of Wireless Maintenance Channel Power Control	10/170,015	6/11/02
Transmittal of Heartbeat Signal at a Lower Level than Heartbeat Request	10/171,080	6/12/02
Multi-Detection of Heartbeat to Reduce Error Probability	10/171,378	6/12/02
Use of Orthogonal or New Orthogonal Codes in Reverse Link	10/196,569	7/15/02
ASIC Interface for Controlling Adaptive Antenna Array	60/361,418	3/1/02

**PATENT**  
**REEL: 014289 FRAME: 0232**

**IDC\_ITCCOMP\_00000385**

**Microsoft Corporation**  
**Exhibit 1020-00049**

**RECORDATION FORM COVER SHEET – PATENTS ONLY****SCHEDULE A****UNITED STATES PATENT APPLICATIONS**

<b><u>Title</u></b>	<b><u>Application No.</u></b>	<b><u>Application Date</u></b>
Dual Band Phased Array Employing Spatial Second Harmonics	10/292,384	11/8/02
Applying Session Services Based on Packet Flows	10/166,576	6/10/02
Random Early Detection Over Wireless Links	10/302,797	11/21/02
Component Technology Proposal for an Orthogonal Reverse Link	60/427,847	11/20/02
Techniques for Reducing Overhead in a Communications System	10/350,309	1/22/03
Techniques for Setting Up Traffic Channels in a Communications System	10/350,308	1/22/03
Beamforming Using a Backplane and Passive Antenna Element	10/348,202	1/20/03
Antenna Adaptation Comparison Method for High Mobility	60/363,669	3/11/02
Antenna Adaptation Comparison Method for High Mobility	10/386,364	3/10/03
Antenna Adaptation During Power Control Bits Times at High Mobility	60/363,214	3/8/02
Antenna Adaptation to Manage the Active Set to Manipulate Soft Hand-Off Regions	10/386,392	3/10/03
Adaptive Receive and Omnidirectional Transmit Antenna Array	10/386,393	3/10/03
Aperiodic Array Antenna	60/419,431	10/17/02
Mobile Communication Handset with Adaptive Antenna Array	10/390,531	3/14/03
Antenna Adaptation in the TIME Division Duplexing System	10/434,437	5/7/03
Adaptive Terminal Based Smart Antenna for Use in a Time Division Multiple Access (TDMA) System	60/378,908	5/7/02
Antenna Steering Scheduler for Mobile Station in Wireless Local Area Network	10/462,569	6/16/03
Covert Spatially Separated Antenna Package for Wireless Repeater	10/462,582	6/16/03
Low Cost Multiple Pattern Antenna for Use with Multiple Receiver Systems	60/411,570	9/17/02
Directional Antenna Physical Layer Steering for WLAN	60/414,947	9/30/02
Directional Antenna Physical Layer Steering for WLAN	60/415,847	10/3/02
Software Based Antenna Steering for WLAN	60/414,946	9/30/02

**PATENT**  
**REEL: 014289 FRAME: 0233**

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**Microsoft Corporation**  
**Exhibit 1020-00050**

**RECORDATION FORM COVER SHEET – PATENTS ONLY**

**SCHEDULE A**

**UNITED STATES PATENT APPLICATIONS**

<b><u>Title</u></b>	<b><u>Application No.</u></b>	<b><u>Application Date</u></b>
Intelligent Interface for Controlling an Adaptive Antenna Array	60/415,265	9/30/02
Intelligent Interface for Controlling an Adaptive Antenna Array	10/378,565	3/3/03
Antenna Steering Algorithm for an 802.11 Access Point	60/479,701	6/19/03
Antenna Steering Algorithm for an 802.11 Station	60/479,640	6/19/03
Application of User Equipment Antenna to Time Division Duplex System	60/466,535	4/29/03
Repeater for Extending Range of Time Division Duplex Communication System	60/390,094	6/15/02
Maintaining a Maintenance Channel in a Reverse Link of a Wireless Communication System	10/339,183	1/8/03

**PATENT**  
**REEL: 014289 FRAME: 0234**

**IDC\_ITCCOMP\_00000387**

**Microsoft Corporation**  
**Exhibit 1020-00051**

**RECORDATION FORM COVER SHEET – PATENTS ONLY**

**SCHEDULE B**

**UNITED STATES PATENTS**

<b><u>Title</u></b>	<b><u>Patent No.</u></b>	<b><u>Grant Date</u></b>
A Protocol Conversion and Bandwidth Reduction Technique Providing Multiple nB+D ISND Basic Rate Interface Links Over a Wireless Code Division Multiple Access Communication System	6,151,332	11/21/00
Dynamic Bandwidth Allocation to Transmit a Wireless Protocol Across a Code Division Multiple Access (CDMA) Radio Link	6,081,536	6/27/00
Dynamic Frame Size Adjustment and Selective Reject on a Multi-Link Channel to Improve Effective Throughput and Bit Error Rate	6,236,647	5/22/01
Dynamic Bandwidth Allocation for Multiple Access Communications Using Buffer Urgency Factor	6,388,999	5/14/02
Fast Acquisitions of Traffic Channels for a Highly Variable Data Rate Reverse Link of a CDMA Wireless Communication System	6,222,832	4/24/01
Fast Acquisitions of Traffic Channels for a Highly Variable Data Rate Reverse Link of a CDMA Wireless Communication System	6,452,913	9/17/02
Arbitration Method for High Power Transmissions in a Code Division Multiple Access System	6,456,835	9/24/02
Method and Apparatus for a Spectrally Compliant Cellular Communication System	6,545,990	4/8/03
Adaptive Antenna for Use in Same Frequency Networks	6,100,843	8/8/00
A Method of Use for an Adaptive Antenna in Same Frequency Networks (As Amended)	6,304,215	10/16/01
Adaptive Antenna for Use in Same Frequency Networks	6,404,386	6/11/02
Adaptive Antenna for Use in Same Frequency Networks	6,518,920	2/11/03
Packaging Timeout Spoofing in a Wireless Data Communications Network	6,553,032	4/22/03
Antenna Array Structure Stacked Over Printed Wiring Board with Beamforming Components	6,362,790	3/26/02
Subscriber-Controlled Registration Technique in a CDMA System	6,563,809	5/13/03
Method and Apparatus for Creating Non-Interfacing Signals Using Non-Orthogonal Techniques	6,212,220	4/3/01

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**PATENT**  
**REEL: 014289 FRAME: 0235**

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**Microsoft Corporation**  
**Exhibit 1020-00052**

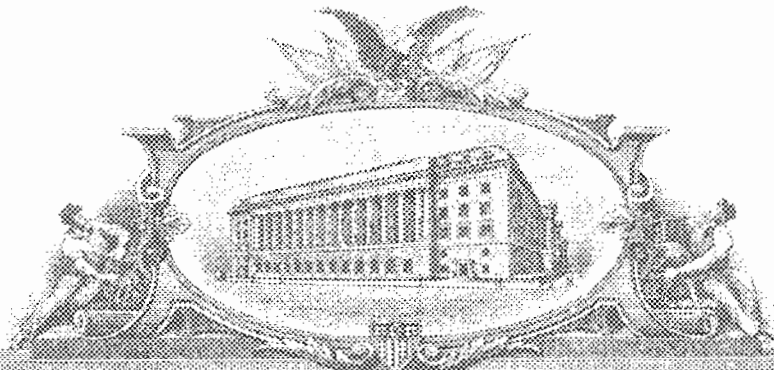
**RECORDATION FORM COVER SHEET – PATENTS ONLY****SCHEDULE B****UNITED STATES PATENTS**

<b><u>Title</u></b>	<b><u>Patent No.</u></b>	<b><u>Grant Date</u></b>
Variable Rate Orthogonally Coded Reverse Link Structure	6,421,336	7/16/02
Method and Apparatus for Adapting Antenna Array to Reduce Adaptation Time While Increasing Array Performance	6,473,036	10/29/02
Dual Mode Subscriber Unit for Short Range, High Rate and Long Range, Lower Rate Data Communications	6,526,034	2/25/03
Pilot Symbol Assisted Modulation and Demodulation in Wireless Communication Systems	6,301,291	10/9/01
Antenna Array with Housing	6,239,756	5/29/01
Access Probe Acknowledgment Including Collision Detection to Avoid Oversetting Initial Power Level	6,545,994	4/8/03
Stacked Dipole Antenna for Use in Wireless Communications System	6,396,456	5/28/02
Receiver for Time Division Multiplex System Without Explicit Time Slot Assignment	6,463,074	10/8/02
Method and Apparatus for Frequency Selective Beam Forming	6,448,938	9/10/02
Method and Apparatus for Antenna Control in a Communications Network	6,400,317	6/4/02
Adaptive Antenna for Use in Wireless Communication Systems	6,515,635	2/4/03
Printed or Etched Folding Directional Antenna	6,476,773	11/5/02
Monopole Antenna for Array Applications	6,417,806	7/9/02
Low Profile Dipole Antenna for Use in Wireless Communications Systems	6,369,771	4/9/02
Closely Spaced Antenna Array	6,369,770	4/9/02
Foldable Directional Antenna	6,480,157	11/12/02
Clarification of the Dynamic Bandwidth Allocation for Multiple Access Communications using Buffer Urgency Factor	6,542,481	4/1/03
Dynamic Bandwidth Allocation To Transmit A Wireless ISDN Protocol Across A Code Division Multiple Access (CDMA) Radio Link	6,526,281	2/25/03

**RECORDED: 07/24/2003****PATENT  
REEL: 014289 FRAME: 0236****IDC\_ITCCOMP\_00000389****Microsoft Corporation  
Exhibit 1020-00053**



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UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

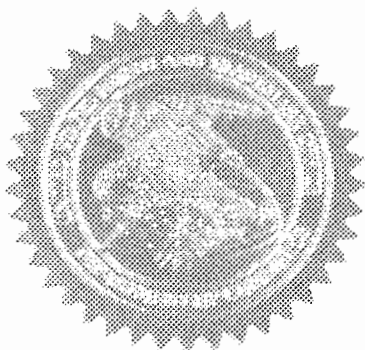
April 01, 2011

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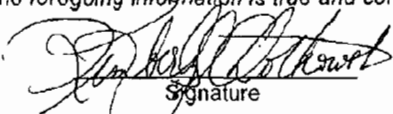


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**Microsoft Corporation**  
**Exhibit 1020-00054**

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3. Nature of conveyance: <input checked="" type="checkbox"/> Assignment <input type="checkbox"/> Merger <input type="checkbox"/> Security Agreement <input type="checkbox"/> Change of Name <input type="checkbox"/> Other _____  Execution Date: <u>2-18-04</u>					
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: _____ A. Patent Application No.(s) <u>08992759; 09088413;</u> <u>09158421; 08992760;</u> <u>09088527; 09210117;</u> B. Patent No.(s) <u>6081536; 6100843; 6151332; 6212220;</u> <u>6222832; 6236647; 6239756; 6301291;</u> Additional numbers attached? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					
5. Name and address of party to whom correspondence concerning document should be mailed: Name: <u>Gerald B. Halt Jr., Esq.</u>  Internal Address: <u>VOLPE AND KOENIG, P.C.</u> <u>UNITED PLAZA, SUITE 1600</u>    Street Address: _____ <u>30 SOUTH 17TH STREET</u>  City: <u>PHILADELPHIA</u> State: <u>PA</u> Zip: <u>19103</u>			6. Total number of applications and patents involved: <u>244</u>  7. Total fee (37 CFR 3.41).....\$ <u>9,760.00</u> <input type="checkbox"/> Enclosed <input checked="" type="checkbox"/> Authorized to be charged to deposit account  8. Deposit account number: <u>09-0435</u> <u>INTERDIGITAL COMMUNICATIONS CORPORATION</u>  (Attach duplicate copy of this page if paying by deposit account)		
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**PATENT**  
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**Microsoft Corporation**  
**Exhibit 1020-00055**

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**Patent Numbers and Patent Application Numbers**

<b>Patent Numbers</b>
6304215
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**PATENT**  
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**Microsoft Corporation**  
**Exhibit 1020-00056**

**Patent Numbers and Patent Application Numbers**

Patent Application Numbers
09030049
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**Microsoft Corporation  
Exhibit 1020-00057**

**Patent Numbers and Patent Application Numbers**

Patent Application Numbers
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60390094

**Patent Numbers and Patent Application Numbers**

Patent Application Numbers
60411570
60414946
60414947
60415265
60415847
60419431
60427847
60466535
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60479701
60489149
60507330

Page 4

**PATENT**  
**REEL: 014351 FRAME: 0781**

IDC\_ITCCOMP\_00000395

**Microsoft Corporation**  
**Exhibit 1020-00059**

<b>Assignment</b>	
I hereby certify that this correspondence is being deposited with the U.S. Postal Service as Express Mail, Airbill No. ER147061190US, in an envelope addressed to: MS Assignment Recordation Services, Director of the US Patent and Trademark Office, P.O. Box 1450, Alexandria, Virginia 22313-1450, on the date shown below.	
Dated: _____	Signature: _____ (Pamela Tincha)

### PATENT ASSIGNMENT

**WHEREAS, InterDigital Acquisition Corporation**, a Delaware corporation having a place of business at 300 Delaware Ave. Suite 527 ("Assignor") is the owner of the entire right, title, and interest in and to the patent properties listed on Schedule A (the "Scheduled Patent Properties"); and

**WHEREAS, InterDigital Patent Corporation**, a Delaware corporation having a place of business at 300 Delaware Ave. Suite 527 ("Assignee"), is desirous of acquiring the entire right, title, and interest in and to the Scheduled Patent Properties and the additional patent properties identified below, all of said patent properties being referred to herein as the "Assigned Patent Properties:"

**NOW, THEREFORE**, Assignor, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, does hereby **SELL, ASSIGN, and CONVEY** unto Assignee all right, title, and interest throughout the world in and to:

1. Said Scheduled Patent Properties;
2. All inventions disclosed by the Scheduled Patent Properties;
3. All patents and like protection that have now been or may in the future be granted and that claim the inventions disclosed by the said Scheduled Patent Properties, whether in the United States of America or in any other country or place anywhere in the world;

25386376.1

**PATENT**  
**REEL: 014351 FRAME: 0782**

IDC\_ITCCOMP\_00000396

**Microsoft Corporation**  
**Exhibit 1020-00060**

4. All substitutions for and divisions, continuations, continuations-in-part, renewals, reissues, extensions, and the like of said Scheduled Patent Properties and like grants, including without limitation, those obtained or permissible under past, present, and future law or statutes;

5. The right to Assignee to file in its name applications for patents and like protection for said Scheduled Patent Properties in any country or countries foreign to the United States;

6. All international rights or priority associated with said Scheduled Patent Properties (said Scheduled Patent Properties and any and all rights, including patents and patent applications, covered by Items No. 2-6 hereof collectively referred to herein as the "Assigned Patent Properties");

7. All rights of action on account of past, present, and future unauthorized use of said Assigned Patent Properties and for infringement of said patents and like protection; and

8. All past, present, and future rights of recovery for unauthorized use of said Assigned Patent Properties under any provisional rights or like protection;

The U.S. Commissioner of Patents and Trademarks and any and all similarly situated officials in other countries are hereby requested to issue Letters Patent in accordance with this Assignment.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by their duly authorized representatives and Assignor has delivered this instrument to Assignee effective the 19th day of February, 2004.

25386378.1

-2-

**PATENT**  
**REEL: 014351 FRAME: 0783**

IDC\_ITCCOMP\_00000397

**Microsoft Corporation**  
**Exhibit 1020-00061**



ASSIGNOR: InterDigital Acquisition CorporationToday's Date: 2-18-04By: [Signature]Title: PresidentState of DE

) SS:

County of New Castle

On 2-18-04 before me, Catherine Sinkewicz Notary Public, personally appeared William Merritt personally known or proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her authorized capacity and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

Witness my hand and official seal.

CATHERINE E. SINKEWICZ  
NOTARY PUBLIC  
STATE OF DELAWARE  
My Commission Expires Oct. 3, 2007

[Signature]  
Notary Public

ASSIGNEE: InterDigital Patent CorporationToday's Date: 2-18-04By: [Signature]Title: PresidentState of DE

) SS:

County of New Castle

On 2-18-04 before me, Catherine Sinkewicz Notary Public, personally appeared William Merritt personally known or proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her authorized capacity and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

Witness my hand and official seal.

CATHERINE E. SINKEWICZ  
NOTARY PUBLIC  
STATE OF DELAWARE  
My Commission Expires Oct. 3, 2007

[Signature]  
Notary Public

25386378.1

-3-

PATENT  
REEL: 014351 FRAME: 0784

IDC\_ITCCOMP\_00000398

Microsoft Corporation  
Exhibit 1020-00062

**SCHEDULE A: SCHEDULED PATENT PROPERTIES**

25786378.1

-4-

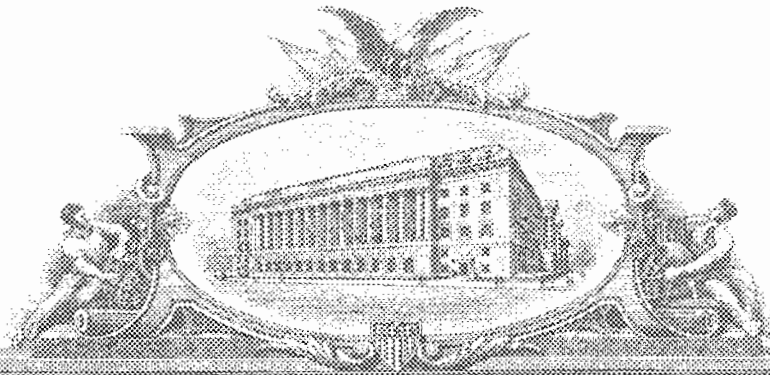
**RECORDED: 02/19/2004**

**PATENT**  
**REEL: 014351 FRAME: 0785**

**IDC\_ITCCOMP\_00000399**

**Microsoft Corporation**  
**Exhibit 1020-00063**

A 1635743



# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

April 01, 2011

THIS IS TO CERTIFY THAT ANNEXED IS A TRUE COPY FROM THE  
RECORDS OF THIS OFFICE OF A DOCUMENT RECORDED ON  
MARCH 10, 2004.

By Authority of the

Under Secretary of Commerce for Intellectual Property  
and Director of the United States Patent and Trademark Office



M. K. CARTER

Certifying Officer

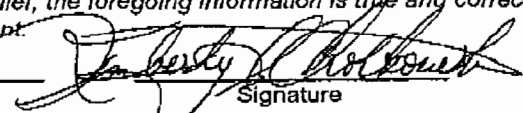


IDC\_ITCCOMP\_00000400

**Microsoft Corporation**  
**Exhibit 1020-00064**

Attny. Docket No.

Express Mail Label No.

Form <b>PTO-1595</b> (Rev. 10/02) OMB No. 0651-0027 (exp. 6/30/2005) Tab settings <span style="font-size: small;">⇒ ⇒ ⇒ ▼ ▼ ▼ ▼ ▼ ▼ ▼</span>		<b>RECORDATION FORM COVER SHEET</b> <b>PATENTS ONLY</b>	U.S. DEPARTMENT OF COMMERCE U.S. Patent and Trademark Office
To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof.			
<b>1. Name of conveying party(ies):</b> InterDigital Patent Corporation SUITE 527 300 DELAWARE AVENUE WILMINGTON, DE 19801  Additional name(s) of conveying party(ies) attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>2. Name and address of receiving party(ies)</b> Name: <u>IPR Licensing, Inc.</u> Internal Address: _____ _____ Street Address: <u>300 Delaware Ave, Suite 527</u> _____ City: <u>Wilmington,</u> State: <u>DE</u> Zip: <u>19801</u> Additional name(s) & address(es) attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
<b>3. Nature of conveyance:</b> <input checked="" type="checkbox"/> Assignment <input type="checkbox"/> Merger <input type="checkbox"/> Security Agreement <input type="checkbox"/> Change of Name <input type="checkbox"/> Other _____  Execution Date: <u>3-09-04</u>	<b>4. Application number(s) or patent number(s):</b> If this document is being filed together with a new application, the execution date of the application is: _____ A. Patent Application No.(s) <u>09158421; 09210117;</u> <u>09263358; 09288229;</u> B. Patent No.(s) <u>6100843; 6212220; 6239756; 6301291;</u> <u>6304215; 6362790</u> Additional numbers attached? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
<b>5. Name and address of party to whom correspondence concerning document should be mailed:</b> Name: <u>Gerald B. Halt Jr., Esq.</u> Internal Address: <u>VOLPE AND KOENIG, P.C.</u> <u>UNITED PLAZA, SUITE 1600</u> _____ Street Address: _____ <u>30 SOUTH 17TH STREET</u> City: <u>PHILADELPHIA</u> State: <u>PA</u> Zip: <u>19103</u>	<b>6. Total number of applications and patents involved:</b> <u>205</u> <b>7. Total fee (37 CFR 3.41).....\$</b> <u>8,200.00</u> <input type="checkbox"/> Enclosed <input checked="" type="checkbox"/> Authorized to be charged to deposit account  <b>8. Deposit account number:</b> <u>09-0435</u> <u>INTERDIGITAL COMMUNICATIONS CORPORATION</u> (Attach duplicate copy of this page if paying by deposit account)		
<b>DO NOT USE THIS SPACE</b>			
<b>9. Statement and signature.</b> <i>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.</i> <div style="display: flex; justify-content: space-between; align-items: flex-end;"> <div style="width: 40%;"> <u>Kimberly S. Chotkowski, Esq.</u>            Name of Person Signing         </div> <div style="width: 30%; text-align: center;">             Signature         </div> <div style="width: 20%; text-align: right;"> <u>3-10-04</u>            Date         </div> </div> <div style="display: flex; justify-content: space-between; align-items: flex-end; margin-top: 5px;"> <div style="width: 30%;">Reg. No. <u>45,012</u></div> <div style="width: 40%;">Total number of pages including cover sheet, attachments, and documents: <input type="checkbox"/></div> <div style="width: 30%; text-align: right;">Sheet <u>1</u> of <u>13</u></div> </div>			

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

 Mail Stop Assignment Recordation Services  
 Director of the US Patent and Trademark Office  
 P.O. Box 1450  
 Alexandria, VA 22313-1450

700071355

 PATENT  
 REEL: 014420 FRAME: 0435

IDC\_ITCCOMP\_00000401

 Microsoft Corporation  
 Exhibit 1020-00065

CH \$8200.00 090435 09158421

Patent Numbers
6369770
6369771
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Patent Application Numbers
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PATENT  
REEL: 014420 FRAME: 0436

IDC\_ITCCOMP\_00000402

Microsoft Corporation  
Exhibit 1020-00066

Patent Application Numbers
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PATENT  
REEL: 014420 FRAME: 0437

IDC\_ITCCOMP\_00000403

Microsoft Corporation  
Exhibit 1020-00067

Patent Application Numbers
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PATENT  
REEL: 014420 FRAME: 0438

IDC\_ITCCOMP\_00000404

Microsoft Corporation  
Exhibit 1020-00068

Patent Application Numbers
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PATENT  
REEL: 014420 FRAME: 0439

IDC\_ITCCOMP\_00000405

Microsoft Corporation  
Exhibit 1020-00069



Patent Application Numbers
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60507330

PATENT  
REEL: 014420 FRAME: 0440

IDC\_ITCCOMP\_00000406

Microsoft Corporation  
Exhibit 1020-00070

## **PATENT ASSIGNMENT**

**WHEREAS, InterDigital Patent Corporation**, a Delaware corporation having a place of business at 300 Delaware Avenue, Suite 527, Wilmington, DE 19801 ("Assignor") is the owner of the entire right, title, and interest in and to the patent properties listed on Schedule A (the "Scheduled Patent Properties"); and

**WHEREAS, IPR Licensing, Inc.**, a Delaware corporation having a place of business at 300 Delaware Avenue, Suite 527, Wilmington, DE 19801 ("Assignee"), is desirous of acquiring the entire right, title, and interest in and to the Scheduled Patent Properties and the additional patent properties identified below, all of said patent properties being referred to herein as the "Assigned Patent Properties;"

**NOW, THEREFORE**, Assignor, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, does hereby SELL, ASSIGN, and CONVEY unto Assignee all right, title, and interest throughout the world in and to:

1. Said Scheduled Patent Properties;
2. All inventions disclosed by the Scheduled Patent Properties;
3. All patents and like protection that have now been or may in the future be granted and that claim the inventions disclosed by the said Scheduled Patent Properties, whether in the United States of America or in any other country or place anywhere in the world;
4. All substitutions for and divisions, continuations, continuations-in-part, renewals, reissues, extensions, and the like of said Scheduled Patent Properties and like grants, including without limitation, those obtained or permissible under past, present, and future law or statutes;

**PATENT**  
**REEL: 014420 FRAME: 0441**

**IDC\_ITCCOMP\_00000407**

**Microsoft Corporation**  
**Exhibit 1020-00071**

5. The right to Assignee to file in its name applications for patents and like protection for said Scheduled Patent Properties in any country or countries foreign to the United States;

6. All international rights or priority associated with said Scheduled Patent Properties (said Scheduled Patent Properties and any and all rights, including patents and patent applications, covered by Items No. 2-6 hereof collectively referred to herein as the "Assigned Patent Properties");

7. All rights of action on account of past, present, and future unauthorized use of said Assigned Patent Properties and for infringement of said patents and like protection; and

8. All past, present, and future rights of recovery for unauthorized use of said Assigned Patent Properties under any provisional rights or like protection;

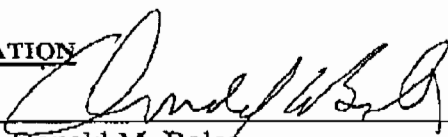
The U.S. Commissioner of Patents and Trademarks and any and all similarly situated officials in other countries are hereby requested to issue Letters Patent in accordance with this Assignment.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by their duly authorized representatives and Assignor has delivered this instrument to Assignee effective the 9<sup>th</sup> day of March, 2004.

ASSIGNOR: INTERDIGITAL PATENT CORPORATION

Today's Date: 4/10/04

By:

  
Donald M. Boles

Title: Vice President and  
Chief Patent Counsel

PATENT  
REEL: 014420 FRAME: 0442

IDC\_ITCCOMP\_00000408

Microsoft Corporation  
Exhibit 1020-00072

**SCHEDULE A: SCHEDULED PATENT PROPERTIES**

<b>Patent Numbers</b>
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<b>Patent Application Numbers</b>
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**PATENT**  
**REEL: 014420 FRAME: 0443**

**IDC\_ITCCOMP\_00000409**

**Microsoft Corporation**  
**Exhibit 1020-00073**

Patent Application Numbers
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PATENT  
REEL: 014420 FRAME: 0444

IDC\_ITCCOMP\_00000410

Microsoft Corporation  
Exhibit 1020-00074

Patent Application Numbers
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PATENT  
REEL: 014420 FRAME: 0445

IDC\_ITCCOMP\_00000411

Microsoft Corporation  
Exhibit 1020-00075

Patent Application Numbers
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PATENT  
REEL: 014420 FRAME: 0446

IDC\_ITCCOMP\_00000412

Microsoft Corporation  
Exhibit 1020-00076

Patent Application Numbers
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60507330

RECORDED: 03/10/2004

PATENT  
REEL: 014420 FRAME: 0447

IDC\_ITCCOMP\_00000413

**Microsoft Corporation**  
**Exhibit 1020-00077**



P. 1816734

# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office

March 31, 2011

THIS IS TO CERTIFY THAT ANNEXED IS A TRUE COPY FROM THE  
RECORDS OF THIS OFFICE OF A DOCUMENT RECORDED ON  
FEBRUARY 26, 2004.

By Authority of the  
Under Secretary of Commerce for Intellectual Property  
and Director of the United States Patent and Trademark Office



A handwritten signature in dark ink, appearing to read "P. Swain", is written over the printed name.

P. SWAIN  
Certifying Officer

IDC\_ITCCOMP\_00000414

**Microsoft Corporation**  
**Exhibit 1020-00078**



03-02-2004



102681622

Form PTO-1595  
(Rev. 03/01)

USPTO No. 0651-0027 (exp. 5/31/2002)

U.S. DEPARTMENT OF COMMERCE  
U.S. Patent and Trademark Office

To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof

## 1. Name of conveying party(ies):

Tantivy Communications, Inc.

2.26-04

Additional name(s) of conveying party(ies)  
attached?☐ Yes☒ No

## 2. Name and address of receiving party(ies)

Name: InterDigital Acquisition Corp.

Internal Address:

Street Address:

300 Delaware Avenue  
Suite 527

City: Wilmington

State: DE

Zip: 19801

Additional name(s) &  
address(es) attached:☐ Yes☒ No

## 3. Nature of Conveyance:

☒ Assignment☐ Merger☐ Security Agreement☐ Change of Name☐ Other

Execution Date: July 30, 2003

## 4. Application number(s) or patent number(s):

If this document is being filed together with a new application, the execution date of the new application is:

## A. Patent Application No.(s):

See attached sheets

## B. Patent No.(s):

See attached sheets

Additional numbers attached? ☒ Yes ☐ No5. Name and address of party to whom correspondence  
concerning document should be mailed:Name: Mary Anne Schofield  
FULBRIGHT & JAWORSKI L.L.P.

Internal Address: Atty. Dkt.: 301.060

Street Address:  
801 Pennsylvania Avenue, N.W.City:  
Washington

State: DC Zip: 20004-2623

6. Total number of applications and  
patents involved:

248

## 7. Total fee (37 CFR 3.41)

\$ 9,760.00

☒ Enclosed☒ Authorized any underpayment to be charged  
to deposit account☐ Authorized to be charged to credit card  
(Form 2038 enclosed)

## 8. Deposit account number:

06-2375 (Atty. Dkt. No. 301.060)

(Attach duplicate copy of this page if paying by deposit account)

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.Mary Anne Schofield  
Name of Person Signing

Signature

February 26, 2004  
Date

Total number of pages including cover sheet, attachments, and documents: 12

03/01/2004 MUELLER 00000114 062375 6081536

01 FC:0021 160.00 00 9760.00 00

## Recordation Form Cover Sheet

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as Express Mail, Airbill No. ER147060265US, in  
an envelope addressed to: MS Assignment Recordation Services, Director of the US Patent and Trademark Office, P.O. Box 1450,  
Alexandria, VA 22313-1450, on the date shown below.

Dated: February 26, 2004

Signature: \_\_\_\_\_

REEL: 015000 FRAME: 0141

IDC\_ITCCOMP\_00000415

Microsoft Corporation  
Exhibit 1020-00079

**RECORDATION FORM COVER SHEET – CONTINUATION OF ITEM 4**

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**PATENT**  
**REEL: 015000 FRAME: 0142**

**IDC\_ITCCOMP\_00000416**

**Microsoft Corporation**  
**Exhibit 1020-00080**

# **RECORDATION FORM COVER SHEET – CONTINUATION OF ITEM 4**

<b>Filed United States Applications</b>
<b>Inventors:</b> Thomas Gorsuch and Carlo Amalfitano <b>Title:</b> <i>Dynamic Bandwidth Allocation to Transmit Wireless Protocol Across a Code Division Multiple Access (CDMA) Radio Link</i> <b>Filed:</b> 02/11/04; Continuation of 10/345,791 <b>Attorney Docket No.</b> 55302 CON5
<b>Inventors:</b> Thomas Gorsuch and Carlo Amalfitano <b>Title:</b> <i>Dynamic Bandwidth Allocation to Transmit Wireless Protocol Across a Code Division Multiple Access (CDMA) Radio Link</i> <b>Filed:</b> 02/11/04; Continuation of 10/345,791 <b>Attorney Docket No.</b> 55302 CON6

<b>Patent Application Numbers</b>
08992759
08992760
09088413
09088527
09158421
09210117
09263358
09288229
09301483
09301484
09313684
09328663
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09388000
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09447022
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09515487
09565095
09574622
09579084
09594112
09596425
09616588
09626784
09630024
09691874
09728575

-2-

**PATENT**  
**REEL: 015000 FRAME: 0143**

IDC\_ITCCOMP\_00000417

**Microsoft Corporation**  
**Exhibit 1020-00081**

**RECORDATION FORM COVER SHEET – CONTINUATION OF ITEM 4**

<b>Patent Application Numbers</b>
09730376
09738934
09766875
09771929
09772176
09772200
09773251
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09773277
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09847860
09847865
09850531

-3-

**PATENT**  
**REEL: 015000 FRAME: 0144**

**IDC\_ITCCOMP\_00000418**

**Microsoft Corporation**  
**Exhibit 1020-00082**

# **RECORDATION FORM COVER SHEET – CONTINUATION OF ITEM 4**

<b>Patent Application Numbers</b>
09852598
09859001
09861296
09871154
09876843
09879807
09898514
09942257
09952198
09997621
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10390531
10401115
10409031

-4-

**PATENT**  
**REEL: 015000 FRAME: 0145**

**IDC\_ITCCOMP\_00000419**

**Microsoft Corporation**  
**Exhibit 1020-00083**

**RECORDATION FORM COVER SHEET – CONTINUATION OF ITEM 4**

<b>Patent Application Numbers</b>
10429183
10434437
10435927
10441977
10444322
10462569
10462582
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10634148
10664413
10675563
10675583
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60250908
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60282936
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60297839

-5-

**PATENT**  
**REEL: 015000 FRAME: 0146**

**IDC\_ITCCOMP\_00000420**

**Microsoft Corporation**  
**Exhibit 1020-00084**

**RECORDATION FORM COVER SHEET – CONTINUATION OF ITEM 4**

<b>Patent Application Numbers</b>
60297925
60297987
60306062
60345412
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60346527
60350569
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60350904
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60507330

-6-

**PATENT**  
**REEL: 015000 FRAME: 0147**

**IDC\_ITCCOMP\_00000421**

**Microsoft Corporation**  
**Exhibit 1020-00085**



## INTELLECTUAL PROPERTY RIGHTS ASSIGNMENT

THIS ASSIGNMENT (the "Assignment") is made and entered into as of July 30<sup>th</sup>, 2003, by and between Tantivy Communications, Inc., (the "Assignor") and InterDigital Acquisition Corp., (the "Assignee").

### WITNESSETH:

WHEREAS, Assignor and Assignee have entered into an Asset Purchase Agreement of even date herewith (the "Purchase Agreement") providing for the sale by Assignor of assets owned by Assignor including certain intellectual property;

WHEREAS, Assignor agrees in the Purchase Agreement to irrevocably assign to Assignee Assignor's entire right, title and interest in and to the Intellectual Property (as defined below).

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, and intending to be legally bound:

### Definitions

The following definitions shall apply to this Assignment:

"Copyrights" shall mean all United States or foreign copyrights, copyrightable works and maskworks, whether registered or unregistered and pending applications to register the same and any other works of authorship owned by Assignor, whether registered or unregistered, databases, and semiconductor chip/mask works, including any United States and foreign registrations for, or applications to register, any of the foregoing, and all moral rights thereto under the laws of any jurisdiction.

"Intellectual Property" shall mean all Copyrights, Patent Rights, Trademarks and Trade Secrets, including but not limited to the name "Tantivy," all domain names owned by Assignor and the content of all websites owned by Assignor.

"Patents" shall mean all United States and foreign patents, patent registrations, patent applications, rights to technical information or technologies or know-how, continuations, continuations-in-part, divisions, renewals, revisions, extensions, reexaminations, reissues, patent disclosures, inventions (whether patentable or not, or whether reduced to writing or not) or improvements thereto and foreign counterparts to any of the foregoing owned by Assignor.

"Trademarks" shall mean all United States, state and foreign trademarks, service marks, logos, designs, slogans, package designs, product designs, assumed names, trade dress and trade names, whether registered or unregistered, domain names and pending applications to register the foregoing owned by Assignor.

FILED: #1443013 v4 (9XPR04.LDOC)

PATENT  
REEL: 015000 FRAME: 0148

IDC\_ITCCOMP\_00000422

Microsoft Corporation  
Exhibit 1020-00086

"Trade Secrets" shall mean all United States and foreign proprietary processes, technologies, inventions, improvements, technical information, confidential ideas, trade secrets, know-how, concepts, methods, processes, formulae, reports, data, customer lists, mailing lists, business plans and other proprietary information of the Assignor, including without limitation the design, development, manufacture, and use thereof.

#### COPYRIGHTS

1. Assignor hereby sells, assigns and transfers to Assignee all of Assignor's right, title and interest in and to the Copyrights, including but not limited to renewal rights therein, the right to obtain registrations of the Copyrights in the United States and throughout the world, and the right to sue and recover any and all damages and profits, and any and all other remedies, for past, present or future infringements or violations thereof, all in Assignee's sole name;

2. Assignee hereby accepts the foregoing assignment but shall not assume any liabilities, debts and obligations associated with the Copyrights, except for obligations for fees to maintain registrations or continue to prosecute Copyrights;

3. Assignor agrees that, if applicable, it will reasonably assist Assignee in acquiring and maintaining copyright protection for, and confirming Assignee's title to, the Copyrights, at Assignee's sole expense;

#### TRADEMARKS

4. Assignor hereby sells, assigns and transfers to Assignee all of Assignor's right, title and interest in and to the Trademarks, together with the goodwill of the business(es) that is/are symbolized by the Trademarks, including but not limited to renewal rights therein, the right to obtain registrations of the Trademarks in the United States and throughout the world, and the right to sue and recover any and all damages and profits, and any and all other remedies, for past, present or future infringements or violations thereof, all in Assignee's sole name;

5. Assignee hereby accepts the foregoing assignment but shall not assume any liabilities, debts and obligations associated with the Trademarks, except for obligations for fees to maintain registrations or continue to prosecute Trademarks;

6. Assignor shall cooperate with Assignee, at Assignee's sole expense, in any action Assignee reasonably requests that Assignor take in order to effectuate, carry out, or fulfill the parties' intent and/or Assignor's obligations hereunder, including, without limitation, the execution of any instruments and papers that are necessary or desirable, in Assignee's sole discretion, to consolidate, confirm, vest and/or record Assignee's full and complete ownership of the Trademarks with, for example, the U.S. Patent and Trademark Office or equivalent foreign offices, or with domain name registrars;

FILED: 01-40015 v4 (10XFR04.DOC)

PATENT  
REEL: 015000 FRAME: 0149

IDC\_ITCCOMP\_00000423

Microsoft Corporation  
Exhibit 1020-00087

## PATENTS

7. Assignor hereby sells, assigns and transfers to Assignee all of Assignor's right, title and interest in and to the Patents, including but not limited to renewal rights therein, the right to obtain patent or equivalent protection therein in the United States and throughout the world, and the right to sue and recover any and all damages and profits, and any and all other remedies, for past, present, or future infringements or violations thereof, all in Assignee's sole name;

8. Assignee hereby accepts the foregoing assignment but shall not assume any liabilities, debts and obligations associated with the Patents, except for obligations for fees to maintain registrations or continue to prosecute Patents;

9. Assignor shall cooperate with Assignee, at Assignee's sole expense, in any action Assignee reasonably requests that Assignor take in order to effectuate, carry out, or fulfill the parties' intent and/or Assignor's obligations hereunder, including, without limitation, the execution of any instruments and papers that are necessary or desirable, in Assignee's sole discretion, to consolidate, confirm, vest and/or record Assignee's full and complete ownership of the Patents with, for example, the U.S. Patent and Trademark Office or equivalent foreign offices;

## TRADE SECRETS

10. Assignor hereby sells, assigns and transfers to Assignee all of Assignor's right, title and interest in and to the Trade Secrets, including but not limited to the right to sue and recover any and all damages and profits, and any and all other remedies, for past, present or future misappropriations or violations thereof, all in Assignee's sole name;

11. Assignee hereby accepts the foregoing assignment but shall not assume any liabilities, debts and obligations associated with the Trade Secrets;

12. Assignor agrees that, if applicable, it will reasonably assist Assignee in acquiring and maintaining any available protections for, and confirming Assignee's title to, the Trade Secrets, at Assignee's sole expense;

## GENERAL

13. This Assignment shall inure to the benefit of Assignee and its successors and assigns and shall be binding upon Assignor and its successors and assigns;

14. This Assignment and all questions relating to its validity, interpretation, performance and enforcement shall be governed by and construed in accordance with the laws of the State of Delaware;

MILBOAL: #1443013 v4 (%XFRD4.DOC)

PATENT

REEL: 015000 FRAME: 0150

IDC\_ITCCOMP\_00000424

Microsoft Corporation  
Exhibit 1020-00088

15. This Assignment, the Purchase Agreement and the Transaction Documents (as defined in the Purchase Agreement) contain the entire agreement and understanding of the parties relating to the subject matter hereof, and merge and supersede all prior and contemporaneous discussions, agreements and understandings of every nature between the parties relating to the subject matter hereof. This Assignment may not be changed or modified, except by an agreement in writing signed by each of the parties; and

16. This Assignment may be executed by facsimile and in counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

*The remainder of the page is intentionally blank. Signature pages follow.*

FILEGAL: #1443015 v4 (6XPR041.DOC)

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PATENT  
REEL: 015000 FRAME: 0151

IDC\_ITCCOMP\_00000425

Microsoft Corporation  
Exhibit 1020-00089

IN WITNESS WHEREOF, the parties to this Assignment have duly executed it as of the date set forth above.

**ASSIGNEE:**

INTERDIGITAL ACQUISITION CORP.

By: [Signature]  
Name: William J. Hewitt  
Title: President

**ASSIGNOR:**

TANTIVY COMMUNICATIONS, INC.

By: [Signature]  
Name: Lisa Kolb  
Title: President and  
Chief Administrative Officer

**ACKNOWLEDGMENT**

STATE OF Delaware :  
COUNTY OF New Castle : ss.

Lisa Kolb, being duly sworn, acknowledges that she is the President of TANTIVY COMMUNICATIONS, INC., a Delaware corporation, and acknowledges that she did sign the Intellectual Property Rights Assignment on behalf of TANTIVY COMMUNICATIONS, INC., pursuant to due authority.

Sworn to and subscribed  
before me this 30 day  
of July, 2003.

[Signature]  
Notary Public

My commission expires JULY 28, 2006  
NOTARY PUBLIC  
STATE OF DELAWARE  
(SEAL) Commission Expires Dec. 28, 2006

FILED: 0143015 06 (5XPR01.DOC)

RECORDED: 02/26/2004

PATENT  
REEL: 015000 FRAME: 0152

IDC\_ITCCOMP\_00000426

Microsoft Corporation  
Exhibit 1020-00090

A 936710



# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

April 01, 2011

THIS IS TO CERTIFY THAT ANNEXED IS A TRUE COPY FROM THE  
RECORDS OF THIS OFFICE OF A DOCUMENT RECORDED ON  
FEBRUARY 26, 2004.

By Authority of the  
Under Secretary of Commerce for Intellectual Property  
and Director of the United States Patent and Trademark Office





M. K. CARTER  
Certifying Officer

IDC\_ITCCOMP\_00000427

Microsoft Corporation  
Exhibit 1020-00091

03-02-2004

Form PTO-1595  
(Rev. 03/01)

-HEET

U.S. DEPARTMENT OF COMMERCE  
U.S. Patent and Trademark Office

OMB No. 0051-0027 (exp. 5/31/2002)

102681861

To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof

<b>1. Name of conveying party(ies):</b> InterDigital Acquisition Corp. <div style="text-align: center; font-size: 1.5em; margin-top: 10px;">2/26/04</div> Additional name(s) of conveying party(ies) attached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<b>2. Name and address of receiving party(ies)</b> Name: <u>InterDigital Patent Corporation</u> Internal Address: _____ Street Address: <u>300 Delaware Avenue</u> <u>Suite 527</u> City: <u>Wilmington</u> State: <u>DE</u> Zip: <u>19801</u> Additional name(s) & address(es) attached: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>3. Nature of Conveyance:</b> <input type="checkbox"/> Assignment <input checked="" type="checkbox"/> Merger <input type="checkbox"/> Security Agreement <input type="checkbox"/> Change of Name <input type="checkbox"/> Other _____ Execution Date: <u>February 18, 2004</u>	
<b>4. Application number(s) or patent number(s):</b> If this document is being filed together with a new application, the execution date of the new application is: _____ A. Patent Application No.(s): <u>See attached sheets</u> B. Patent No.(s): <u>See attached sheets</u> Additional numbers attached? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<b>5. Name and address of party to whom correspondence concerning document should be mailed:</b> Name: <u>Mary Anne Schofield</u> <u>FULBRIGHT &amp; JAWORSKI L.L.P.</u> Internal Address: <u>Atty. Dkt.: 301.060</u> Street Address: <u>801 Pennsylvania Avenue, N.W.</u> City: <u>Washington</u> State: <u>DC</u> Zip: <u>20004-2623</u>	<b>6. Total number of applications and patents involved:</b> <u>248</u> <b>7. Total fee (37 CFR 3.41)</b> \$ <u>9,920.00</u> <input checked="" type="checkbox"/> Enclosed <input type="checkbox"/> Authorized to be charged to deposit account <input type="checkbox"/> Authorized to be charged to credit card (Form 2038 enclosed) <b>8. Deposit account number:</b> <u>06-2375 (Atty. Dkt. No. 301.060)</u> (Attach duplicate copy of this page if paying by deposit account)
DO NOT USE THIS SPACE	
<b>9. Statement and signature.</b> <i>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.</i> <div style="display: flex; justify-content: space-between; align-items: flex-end; margin-top: 20px;"> <div style="text-align: center;"> <u>Mary Anne Schofield</u>              Name of Person Signing           </div> <div style="text-align: center;">               Signature           </div> <div style="text-align: center;"> <u>February 26, 2004</u>              Date           </div> </div> Total number of pages including cover sheet, attachments, and documents: <u>8</u>	

## Recordation Form Cover Sheet

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as Express Mail, Airbill No. ER147060265US, in an envelope addressed to: MS Assignment Recordation Services, Director of the US Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450, on the date shown below.

Dated: February 26, 2004

Signature: \_\_\_\_\_

PATENT

REEL: 015000 FRAME: 0577

IDC\_ITCCOMP\_00000428

**Microsoft Corporation**  
**Exhibit 1020-00092**

**RECORDATION FORM COVER SHEET – CONTINUATION OF ITEM 4**

Patent Numbers
6081536
6100843
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**PATENT**  
**REEL: 015000 FRAME: 0578**

**IDC\_ITCCOMP\_00000429**

**Microsoft Corporation**  
**Exhibit 1020-00093**



**RECORDATION FORM COVER SHEET – CONTINUATION OF ITEM 4**

<b>Filed United States Applications</b>
<b>Inventors:</b> Thomas Gorsuch and Carlo Amalfitano <b>Title:</b> <i>Dynamic Bandwidth Allocation to Transmit Wireless Protocol Across a Code Division Multiple Access (CDMA) Radio Link</i> <b>Filed:</b> 02/11/04; Continuation of 10/345,791 <b>Attorney Docket No.</b> 55302 CON5
<b>Inventors:</b> Thomas Gorsuch and Carlo Amalfitano <b>Title:</b> <i>Dynamic Bandwidth Allocation to Transmit Wireless Protocol Across a Code Division Multiple Access (CDMA) Radio Link</i> <b>Filed:</b> 02/11/04; Continuation of 10/345,791 <b>Attorney Docket No.</b> 55302 CON6

<b>Patent Application Numbers</b>
08992759
08992760
09088413
09088527
09158421
09210117
09263358
09288229
09301483
09301484
09313684
09328663
09384041
09384072
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**PATENT**  
**REEL: 015000 FRAME: 0579**

IDC\_ITCCOMP\_00000430

**Microsoft Corporation**  
**Exhibit 1020-00094**

**RECORDATION FORM COVER SHEET - CONTINUATION OF ITEM 4**

<b>Patent Application Numbers</b>
09730376
09738934
09766875
09771929
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09772200
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09773255
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-3-

**PATENT**  
**REEL: 015000 FRAME: 0580**

**IDC\_ITCCOMP\_00000431**

**Microsoft Corporation**  
**Exhibit 1020-00095**

**RECORDATION FORM COVER SHEET – CONTINUATION OF ITEM 4**

<b>Patent Application Numbers</b>
09852598
09859001
09861296
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09952198
09997621
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-4-

**PATENT**  
**REEL: 015000 FRAME: 0581**

**IDC\_ITCCOMP\_00000432**

**Microsoft Corporation**  
**Exhibit 1020-00096**

**RECORDATION FORM COVER SHEET - CONTINUATION OF ITEM 4**

<b>Patent Application Numbers</b>
10429183
10434437
10435927
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10444322
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10462582
10601180
10634148
10664413
10675563
10675583
10691198
10717995
10744912
10755874
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-5-

**PATENT**  
**REEL: 015000 FRAME: 0582**

**IDC\_ITCCOMP\_00000433**

**Microsoft Corporation**  
**Exhibit 1020-00097**

**RECORDATION FORM COVER SHEET - CONTINUATION OF ITEM 4**

<b>Patent Application Numbers</b>
60297925
60297987
60306062
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60346527
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60350904
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60414946
60414947
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60489149
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-6-

**PATENT**  
**REEL: 015000 FRAME: 0583**

**IDC\_ITCCOMP\_00000434**

**Microsoft Corporation**  
**Exhibit 1020-00098**

**CERTIFICATE OF MERGER  
OF  
INTERDIGITAL ACQUISITION CORP.  
AND  
IPR HOLDINGS DELAWARE, INC.  
INTO  
INTERDIGITAL PATENT CORPORATION**

Pursuant to Title 8, Section 251(c) of the Delaware General Corporation Law, the undersigned corporation executed the following Certificate of Merger:

**FIRST:** The name of the surviving corporation is InterDigital Patent Corporation, a Delaware corporation and the name of the corporations being merged into this surviving corporation are InterDigital Acquisition Corp., a Delaware corporation and IPR Holdings Delaware, Inc., a Delaware corporation.

**SECOND:** The Agreement of Merger has been approved, adopted, certified, executed and acknowledged by each of the constituent corporations.

**THIRD:** The name of the surviving corporation is InterDigital Patent Corporation, a Delaware corporation.

**FOURTH:** The certificate of incorporation of InterDigital Patent Corporation shall be the certificate of incorporation of the surviving corporation.

**FIFTH:** The Agreement and Plan of Merger is on file at 300 Delaware Avenue, Suite 527, Wilmington, Delaware 19801, the place of business of the surviving corporation.

**SIXTH:** A copy of the Agreement and Plan of Merger will be furnished by the surviving corporation on request, without cost, to any stockholder of the constituent corporations.

**IN WITNESS WHEREOF,** said surviving corporation has caused this certificate to be signed by an authorized officer, the 18<sup>th</sup> day of February, 2004.

INTERDIGITAL PATENT CORPORATION

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

*William J. Merritt*  
President

PHLEGAL: #1544228 v1 (X338011.DOC) 105700-92

**RECORDED: 02/26/2004**

**PATENT  
REEL: 015000 FRAME: 0584**

IDC\_ITCCOMP\_00000435

**Microsoft Corporation  
Exhibit 1020-00099**