

PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT												
NATURE OF CONVEYANCE:	ASSIGNMENT												
CONVEYING PARTY DATA													
<table border="1"> <thead> <tr> <th>Name</th> <th>Execution Date</th> </tr> </thead> <tbody> <tr> <td>JASON POTTERF</td> <td>12/20/2013</td> </tr> <tr> <td>GEORGE EDWARD CURTIS</td> <td>12/27/2013</td> </tr> <tr> <td>WILLIAM FRANK EDWARDS</td> <td>02/03/2014</td> </tr> <tr> <td>GREGORY SCOTT LOVELACE</td> <td>12/19/2013</td> </tr> <tr> <td>KEITH FRANK THARP</td> <td>12/16/2013</td> </tr> </tbody> </table>		Name	Execution Date	JASON POTTERF	12/20/2013	GEORGE EDWARD CURTIS	12/27/2013	WILLIAM FRANK EDWARDS	02/03/2014	GREGORY SCOTT LOVELACE	12/19/2013	KEITH FRANK THARP	12/16/2013
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KEITH FRANK THARP	12/16/2013												
RECEIVING PARTY DATA													
Name:	CISCO TECHNOLOGY, INC.												
Street Address:	170 WEST TASMAN DRIVE												
City:	SAN JOSE												
State/Country:	CALIFORNIA												
Postal Code:	95134												
PROPERTY NUMBERS Total: 1													
<table border="1"> <thead> <tr> <th>Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>Application Number:</td> <td>14142617</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	14142617								
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Application Number:	14142617												
CORRESPONDENCE DATA													
Fax Number:	(415)814-6165												
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Email:	amy.drury@novakdruce.com												
<i>Correspondence will be sent via US Mail when the email attempt is unsuccessful.</i>													
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Address Line 2:	34TH FLOOR												
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ATTORNEY DOCKET NUMBER:	20732.0122.NPUS00_986133												
NAME OF SUBMITTER:	BRIAN MCKNIGHT												

Signature:	/Brian McKnight/
Date:	02/03/2014
Total Attachments: 10 source=20732_0122_NPUS00_Assignment_020314#page1.tif source=20732_0122_NPUS00_Assignment_020314#page2.tif source=20732_0122_NPUS00_Assignment_020314#page3.tif source=20732_0122_NPUS00_Assignment_020314#page4.tif source=20732_0122_NPUS00_Assignment_020314#page5.tif source=20732_0122_NPUS00_Assignment_020314#page6.tif source=20732_0122_NPUS00_Assignment_020314#page7.tif source=20732_0122_NPUS00_Assignment_020314#page8.tif source=20732_0122_NPUS00_Assignment_020314#page9.tif source=20732_0122_NPUS00_Assignment_020314#page10.tif	

**ASSIGNMENT
(JOINT)**

THIS ASSIGNMENT, by Jason Potterf; George Edward Curtis; William Frank Edwards; Gregory Scott Lovelace; and Keith Frank Tharp; (hereinafter referred to collectively as the "Assignors"), witnesseth:

WHEREAS, said Assignors have invented certain new and useful improvements in: **TECHNOLOGIES FOR HIGH-SPEED COMMUNICATIONS**, set forth in an application for Letters Patent of the United States filed herewith.

WHEREAS, **CISCO TECHNOLOGY, INC.**, a corporation duly organized under and pursuant to the laws of the State of California, and having a principal place of business at 170 West Tasman Drive, San Jose, California 95134 (hereinafter referred to as the "Assignee"), is desirous of acquiring the entire right, title and interest in and to said inventions and applications for Letters Patent of the United States, and in and to any Letters Patent or Patents, United States or foreign, to be obtained therefor and thereon:

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

FOR THE SAME CONSIDERATION, said Assignors hereby covenant and agree to and with said Assignee, its successors, legal representatives and assigns, that, at the time of execution and delivery of these presents, said Assignors are the lawful owners of the entire right, title and interest in and to said invention and the application for Letters Patent above mentioned, and that the same is unencumbered and that said Assignors have good and full right and lawful authority to sell and convey the same in the manner herein set forth; and

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

FOR THE SAME CONSIDERATION, said Assignors have sold, assigned, transferred and set over, and by these presents do sell, assign, transfer and set over, unto said Assignee, its successors, legal representatives and assigns, Assignors' interest in the entire right, title and interest in all claims for damages and all remedies arising out of any violation of the rights assigned hereby that may have accrued prior to the date of assignment to Assignee, or may accrue hereafter including, but not limited to, the right to sue for, collect, and retain damages for past infringement of the said Patents and Applications before or after issuance.

IN WITNESS WHEREOF, Assignors have thus set their hands on the dates below written.

Date: 12/20/2013, 2013 Signature: 
Jason Potterf

Date: _____, 2013 Signature: _____
George Edward Curtis

Date: _____, 2013 Signature: _____
William Frank Edwards

Date: _____, 2013 Signature: _____
Gregory Scott Lovelace

Date: _____, 2013 Signature: _____
Keith Frank Tharp

**ASSIGNMENT
(JOINT)**

THIS ASSIGNMENT, by Jason Potterf; George Edward Curtis; William Frank Edwards; Gregory Scott Lovelace; and Keith Frank Tharp; (hereinafter referred to collectively as the "Assignors"), witnesseth:

WHEREAS, said Assignors have invented certain new and useful improvements in: **TECHNOLOGIES FOR HIGH-SPEED COMMUNICATIONS**, set forth in an application for Letters Patent of the United States filed herewith.

WHEREAS, CISCO TECHNOLOGY, INC., a corporation duly organized under and pursuant to the laws of the State of California, and having a principal place of business at 170 West Tasman Drive, San Jose, California 95134 (hereinafter referred to as the "Assignee"), is desirous of acquiring the entire right, title and interest in and to said inventions and applications for Letters Patent of the United States, and in and to any Letters Patent or Patents, United States or foreign, to be obtained therefor and thereon:

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

FOR THE SAME CONSIDERATION, said Assignors hereby covenant and agree to and with said Assignee, its successors, legal representatives and assigns, that, at the time of execution and delivery of these presents, said Assignors are the lawful owners of the entire right, title and interest in and to said invention and the application for Letters Patent above mentioned, and that the same is unencumbered and that said Assignors have good and full right and lawful authority to sell and convey the same in the manner herein set forth; and

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

FOR THE SAME CONSIDERATION, said Assignors have sold, assigned, transferred and set over, and by these presents do sell, assign, transfer and set over, unto said Assignee, its successors, legal representatives and assigns, Assignors' interest in the entire right, title and interest in all claims for damages and all remedies arising out of any violation of the rights assigned hereby that may have accrued prior to the date of assignment to Assignee, or may accrue hereafter including, but not limited to, the right to sue for, collect, and retain damages for past infringement of the said Patents and Applications before or after issuance.

**ASSIGNMENT
(JOINT)**

THIS ASSIGNMENT, by **Jason Potterf; George Edward Curtis; William Frank Edwards; Gregory Scott Lovelace; and Keith Frank Tharp;** (hereinafter referred to collectively as the "Assignors"), witnesseth:

WHEREAS, said Assignors have invented certain new and useful improvements in:
TECHNOLOGIES FOR HIGH-SPEED COMMUNICATIONS, set forth in an application for Letters Patent of the United States filed on or about December 27, 2013 as U.S. Application No. 14/142,617.

WHEREAS, **CISCO TECHNOLOGY, INC.**, a corporation duly organized under and pursuant to the laws of the State of California, and having a principal place of business at 170 West Tasman Drive, San Jose, California 95134 (hereinafter referred to as the "Assignee"), is desirous of acquiring the entire right, title and interest in and to said inventions and applications for Letters Patent of the United States, and in and to any Letters Patent or Patents, United States or foreign, to be obtained therefor and thereon:

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

FOR THE SAME CONSIDERATION, said Assignors hereby covenant and agree to and with said Assignee, its successors, legal representatives and assigns, that, at the time of execution and delivery of these presents, said Assignors are the lawful owners of the entire right, title and interest in and to said invention and the application for Letters Patent above mentioned, and that the same is unencumbered and that said Assignors have good and full right and lawful authority to sell and convey the same in the manner herein set forth; and

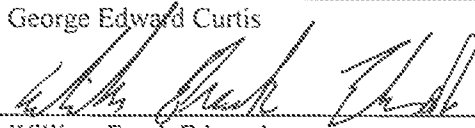
FOR THE SAME CONSIDERATION, said Assignors hereby covenant and agree to and with said Assignee, its successors, legal representatives and assigns, that said Assignors will, whenever counsel of said Assignee, or the counsel of its successors, legal representatives and assigns, shall advise that any proceeding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

FOR THE SAME CONSIDERATION, said Assignors have sold, assigned, transferred and set over, and by these presents do sell, assign, transfer and set over, unto said Assignee, its successors, legal representatives and assigns, Assignors' interest in the entire right, title and interest in all claims for damages and all remedies arising out of any violation of the rights assigned hereby that may have accrued prior to the date of assignment to Assignee, or may accrue hereafter including, but not limited to, the right to sue for, collect, and retain damages for past infringement of the said Patents and Applications before or after issuance.

IN WITNESS WHEREOF, Assignors have thus set their hands on the dates below written.

Date: _____, 2014 Signature: _____
Jason Potterf

Date: _____, 2014 Signature: _____
George Edward Curtis

Date: 2/3, 2014 Signature: 
William Frank Edwards

Date: _____, 2014 Signature: _____
Gregory Scott Lovelace

Date: _____, 2014 Signature: _____
Keith Frank Tharp

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Date: _____, 2013 Signature: _____
Jason Potterf

Date: _____, 2013 Signature: _____
George Edward Curtis

Date: _____, 2013 Signature: _____
William Frank Edwards

Date: Dec. 19, 2013 Signature: Gregory Scott Lovelace
Gregory Scott Lovelace

Date: _____, 2013 Signature: _____
Keith Frank Tharp

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