

PATENT ASSIGNMENT

Electronic Version v1.1

Stylesheet Version v1.1

SUBMISSION TYPE:

NEW ASSIGNMENT

NATURE OF CONVEYANCE:

ASSIGNMENT

CONVEYING PARTY DATA

| Name                 | Execution Date |
|----------------------|----------------|
| TROPIC NETWORKS INC. | 04/13/2007     |

RECEIVING PARTY DATA

|                 |                            |
|-----------------|----------------------------|
| Name:           | ALCATEL-LUCENT CANADA INC. |
| Street Address: | 600 March Road             |
| City:           | Ottawa, Ontario            |
| State/Country:  | CANADA                     |
| Postal Code:    | K2K 2E6                    |

PROPERTY NUMBERS Total: 9

| Property Type  | Number  |
|----------------|---------|
| Patent Number: | 6977943 |
| Patent Number: | 6981200 |
| Patent Number: | 6982977 |
| Patent Number: | 7000029 |
| Patent Number: | 7012933 |
| Patent Number: | 7035209 |
| Patent Number: | 7092360 |
| Patent Number: | 7092404 |
| Patent Number: | 7126907 |

CORRESPONDENCE DATA

Fax Number: (613)831-3329

*Correspondence will be sent via US Mail when the fax attempt is unsuccessful.*

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PATENT

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REEL: 021138 FRAME: 0032

OP \$360.00 6977943

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Address Line 4: Kanata, Ontario, CANADA K2M 2C3

ATTORNEY DOCKET NUMBER:

TR-058-US-3

NAME OF SUBMITTER:

Victoria Donnelly

**Total Attachments: 29**

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## **PATENT ASSIGNMENT**

This PATENT ASSIGNMENT, effective as of this 13th day of April, 2007 is made by and between TROPIC NETWORKS INC, a corporation organized under the laws of Canada with offices at 135 Michael Cowpland Drive, Ottawa, Ontario Canada K2M 2E9 (hereinafter referred to as the "Assignor"), and ALCATEL-LUCENT CANADA INC., a corporation organized under the laws of Canada with offices at 600 March Road, Ottawa, Ontario K2K 2E6 (hereinafter referred to as the "Assignee").

**WHEREAS**, the Assignor is desirous of transferring and assigning to the Assignee, and the Assignee is desirous of acquiring from the Assignor, all of the Assignor's right, title and interest in and to the inventions disclosed in the patents, patent applications and inventive submissions as set forth on Schedule A.

**NOW, THEREFORE**, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Assignor does hereby convey, transfer, assign and deliver to Assignee, the entire right, title, interest, property and benefit for Canada, the United States of America and all foreign countries, jurisdictions and political entities of the world, including all rights of priority, in and to inventions disclosed in the patents, patent applications and inventive submissions identified on Schedule A, and in and to all Letters Patents of Canada, the United States of America and all foreign countries, jurisdictions and political entities of the world, which may or shall be granted on said inventions, or any parts thereof, or any divisional, continuation, reissue or other applications based in whole or in part thereon, and the right to recover for past infringement of the patents. Assignee hereby accepts said Assignment.

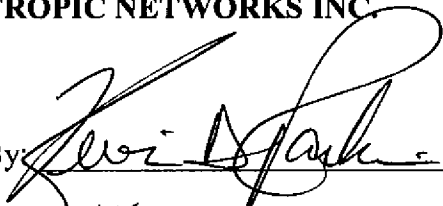
Assignor agrees to execute all applications, amended specifications, deeds or other instruments, and to do all acts necessary or proper to secure the grant of Letters Patent in Canada, the United States of America and in all other countries, jurisdictions and political entities of the world, to Assignee, and to vest and confirm in Assignee, its successors, assigns, legal representatives or nominees, the legal title to all such patents.

Assignor does hereby authorize and request the Commissioner of Patents and Trademarks of the Canadian Intellectual Property Office, the Commissioner of Patents and Trademarks of the United States Patent and Trademark Office and any other similarly competent official in any other countries, jurisdictions or political entities of the world, to issue such Letters Patent as shall be granted upon said inventions or applications based thereon to said Assignee, its successors, assigns legal representatives or nominees.

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IN WITNESS WHEREOF, Assignor has hereunto executed this instrument this  
13th day of April, 2007.

**TROPIC NETWORKS INC.**

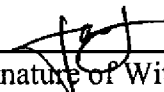
By: 

Name: KEVIN RANKIN

Title: CEO

**Statement of Witness for Tropic Networks Inc.**

I, James Smith, whose full post office address 515 Legget Drive, Suite 800, Ottawa, Ontario, K2K 3G6 state that I was personally present and did see Kevin Rankin who is personally known to me to be the person who duly executed the above Assignment on behalf of Tropic Networks Inc., and I hereby witness the same on the date set forth above.

  
[Signature of Witness]

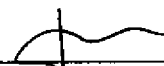
IN WITNESS WHEREOF, Assignee has hereunto executed this instrument this  
13th day of April, 2007.

**ALCATEL-LUCENT CANADA INC.**

By:   
Name: Michael A. Stewart  
Title: Ass't Secretary

**Statement of Witness for Alcatel-Lucent Canada Inc.**

I, James Smith, whose full post office address 515 Legget Drive, Suite 800, Ottawa, Ontario, K2K 3G6 state that I was personally present and did see MICHAEL STEWART who is personally known to me to be the person who duly executed the above Assignment on behalf of Tropic Networks Inc., and I hereby witness the same on the date set forth above.

  
[Signature of Witness]

PATENT PORTFOLIO OF TROPIC NETWORKS Nov 03 2006

| File No.<br>Internal | Title                                                           | Inventor<br>Last Name        | Status               | Country | Type    | Filed         | Serial No. | Issued        | Patent No. |
|----------------------|-----------------------------------------------------------------|------------------------------|----------------------|---------|---------|---------------|------------|---------------|------------|
| TR-001-CA            | Optical Multiplexer, Demultiplexer and Methods                  | Bacque<br>Chimfwembe<br>Ngi  | Issued               | CA      | Regular | Apr 24, 2001  | 2,344,541  | May 9, 2006   | 2,344,541  |
| TR-001-US-CIP        | Optical Multiplexer, Demultiplexer and Methods                  | Bacque<br>Chimfwembe<br>Ngi  | Issued               | US      | CIP     | Sept 30, 2002 | 10/259,597 | June 22, 2004 | 6,754,413  |
| TR-001-CA-CIP        | Optical Multiplexer, Demultiplexer and Methods                  | Bacque<br>Chimfwembe<br>Ngi  | Filed                | CA      | CIP     | July 7, 2003  | 2,434,723  |               |            |
| TR-002-CA            | Optical Connection Arrangements                                 | Kelly<br>Bierman             | Issued<br>IMSCIENCES | CA      | Regular | June 15, 2001 | 2,350,864  | Apr 12, 2005  | 2,350,864  |
| TR-002-US            | Optical Connection Arrangements                                 | Kelly<br>Bierman             | Issued<br>IMSCIENCES | US      | Regular | June 15, 2001 | 09/880,811 | Jan 6, 2004   | 6,674,935  |
| TR-003-CA            | Add/Drop Multiplexing in WDM Optical Networks                   | Liu<br>Wan<br>Remedios       | Issued<br>IMSCIENCES | CA      | Regular | July 5, 2001  | 2,352,264  | 12-Dec-06     | 2,352,264  |
| TR-003-US            | Add/Drop Multiplexing in WDM Optical Networks                   | Liu<br>Wan<br>Remedios       | Issued<br>IMSCIENCES | US      | Regular | July 6, 2001  | 09/899,151 | Dec 7, 2004   | 6,829,438  |
| TR-005-US            | Method and System for Monitoring Performance of Optical Network | Liu<br>Vethanayagam<br>Oprea | Issued               | US      | Regular | Nov 23, 2001  | 09/990,366 | Apr 18, 2006  | 7,031,606  |
| TR-006-US            | Flexible Optical Network Architecture                           | Liu                          | Issued<br>IMSCIENCES | US      | Regular | Sept 18, 2001 | 09/953,952 | May 6, 2003   | 6,559,987  |
| TR-006-CA            | Flexible Optical Network Architecture                           | Liu                          | Filed<br>IMSCIENCES  | CA      | Regular | Sept 18, 2001 | 2,357,671  |               |            |
| TR-008-US            | Interposer Chip for Protocol Conversion                         | Zboril<br>Knox               | Issued<br>IMSCIENCES | US      | Regular | Apr 24, 2002  | 10/128,290 | 15-Aug-06     | 7,092,404  |

|           |                                                                                                   |                                                    |        |    |         |               |            |              |           |
|-----------|---------------------------------------------------------------------------------------------------|----------------------------------------------------|--------|----|---------|---------------|------------|--------------|-----------|
| TR-009-US | Redundancy Systems and Methods in Communications Systems                                          | Jones<br>Patriarche                                | Issued | US | Regular | Apr 12, 2002  | 10/120,435 | Jan 3, 2006  | 6,983,294 |
| TR-009-CA | Redundancy Systems and Methods in Communications Systems                                          | Jones<br>Patriarche                                | Filed  | CA | Regular | May 1, 2002   | 2,384,261  |              |           |
| TR-010-CA | Methods and Apparatus for Selecting Multiple Paths Taking Into Account Shared Risk                | Pieda<br>Carpini<br>Dang<br>Edmison<br>Neudstadter | Issued | CA | Regular | June 14, 2001 | 2,350,449  | Jan 3, 2006  | 2,350,449 |
| TR-010-US | Methods and Apparatus for Selecting Multiple Paths Taking Into Account Shared Risk                | Pieda<br>Carpini<br>Dang<br>Edmison<br>Neudstadter | Issued | US | Regular | June 14, 2001 | 09/879,937 | Apr 19, 2005 | 6,882,627 |
| TR-011-CA | Method and System for Allocating and Controlling Labels in Multi-Protocol Label Switched Networks | Kasvand-Harris<br>Neustadter<br>Carpini<br>Mark    | Filed  | CA | Regular | May 13, 2002  | 2,385,999  |              |           |
| TR-011-US | Method and System for Allocating and Controlling Labels in Multi-Protocol Label Switched Networks | Kasvand-Harris<br>Neustadter<br>Carpini<br>Mark    | Issued | US | Regular | May 14, 2002  | 10/143,780 | 10-Oct-06    | 7,120,165 |
| TR-012-US | Packet Network Providing Fast Distribution of Node Related Information and a Method Therefor      | Mark<br>Carpini<br>Thi                             | Issued | US | Regular | Mar 20, 2002  | 10/101,383 | 24-Oct-06    | 7,126,921 |
| TR-012-CA | Packet Network Providing Fast Distribution of Node Related Information and a Method Therefor      | Mark<br>Carpini<br>Thi                             | Filed  | CA | Regular | Apr 19, 2002  | 2,382,656  |              |           |

|                       |                                                                                                           |                                         |             |    |         |               |            |              |           |
|-----------------------|-----------------------------------------------------------------------------------------------------------|-----------------------------------------|-------------|----|---------|---------------|------------|--------------|-----------|
| TR-013-US             | A Label Switched Communication Network and System and Method for Path Restoration                         | Carpini<br>Mark<br>Pieda                | Abandoned   | US | Regular | Sept 28, 2001 | 09/964,766 |              |           |
| TR-013-CA             | A Label Switched Communication Network and System and Method for Path Restoration                         | Carpini<br>Mark<br>Pieda                | Filed       | CA | Regular | Oct 1, 2001   | 2,358,174  |              |           |
| TR-014-CA             | A Label Switched Communication Network, a Method of Conditioning the Network and a Method of Transmission | Carpini<br>Mark<br>Kasvand Harris       | Filed       | CA | Regular | Aug 31, 2001  | 2,356,567  |              |           |
| TR-014-US             | A Label Switched Communication Network, a Method of Conditioning the Network and a Method of Transmission | Carpini<br>Mark<br>Kasvand Harris       | OA Received | US | Regular | Aug 31, 2001  | 09/943,005 | 24-Oct-06    | 7,126,907 |
| TR-015-CA             | Two-Stage Reconnect System and Method                                                                     | Dang<br>Neustadter<br>Carpini<br>Spicer | Filed       | CA | Regular | Jan 30, 2003  | 2,417,680  |              |           |
| TR-015-US             | Two-Stage Reconnect System and Method                                                                     | Dang<br>Neustadter<br>Carpini<br>Spicer | OA Received | US | Regular | Apr 9, 2002   | 10/117,992 |              |           |
| TR-016-CA<br>(Design) | Front Panel for Optoelectronic Shelf                                                                      | Watters<br>Tutton<br>Busschaert         | Issued      | CA | Design  | May 24, 2001  | 2001-1300  | Feb 28, 2002 | 94,711    |
| TR-016-US<br>(Design) | Front Panel for Optoelectronic Shelf                                                                      | Watters<br>Tutton<br>Busschaert         | Issued      | US | Design  | May 24, 2001  | 29/142,332 | Nov 12, 2002 | D465,496  |

|                 |                                                            |                                                                     |                      |    |            |               |            |               |           |
|-----------------|------------------------------------------------------------|---------------------------------------------------------------------|----------------------|----|------------|---------------|------------|---------------|-----------|
| TR-021-US       | Multi-Constraint Routing System and Method                 | Lee<br>Ganti<br>Srinivasan<br>Carpini<br>Neustadler<br>Dang<br>Wong | Issued               | US | Regular    | Dec 26, 2001  | 10/025,869 | Aug 2, 2005   | 6,925,061 |
| TR-025-CA       | Extension of Link Aggregation Protocols Over the Network   | Mark<br>Carpini                                                     | Issued               | CA | Regular    | June 15, 2001 | 2,350,673  | Sept 7, 2004  | 2,350,673 |
| TR-025-CA (DIV) | Extension of Link Aggregation Protocols Over the Network   | Mark<br>Carpini                                                     | Issued               | CA | Divisional | June 15, 2001 | 2,459,027  | Apr 25, 2006  | 2,459,027 |
| TR-025-US       | Extension of Link Aggregation Protocols Over the Network   | Mark<br>Carpini                                                     | Issued               | US | Regular    | June 14, 2001 | 09/879,939 | Oct 18, 2005  | 6,956,824 |
| TR-029-US       | System and Method for Distribution of Software             | Dawson                                                              | Issued               | US | Regular    | Oct 2, 2001   | 09/967,950 | 23-May-06     | 7,051,112 |
| TR-029-CA       | System and Method for Distribution of Software             | Dawson                                                              | Filed                | CA | Regular    | Oct 2, 2001   | 2,358,137  |               |           |
| TR-030-US       | Cascaded Flow Policing Systems and Methods                 | Ganti<br>Lee<br>Mark                                                | OA Received          | US | Regular    | June 29, 2001 | 09/893,584 |               |           |
| TR-030-CA       | Cascaded Flow Policing Systems and Methods                 | Ganti<br>Lee<br>Mark                                                | OA Received          | CA | Regular    | June 29, 2001 | 2,352,004  |               |           |
| TR-031-US       | Stacked Backplane Assembly                                 | Harris<br>Batterton                                                 | Issued<br>IMSCIENCES | US | Regular    | Feb 5, 2002   | 10/062,780 | June 29, 2004 | 6,757,177 |
| TR-031-CA       | Stacked Backplane Assembly                                 | Harris<br>Batterton                                                 | Issued<br>IMSCIENCES | CA | PCT        | June 4, 2002  | 2,455,568  | 12-Dec-06     | 2,455,568 |
| TR-032-US       | Module and Method for Interconnecting Optoelectronic Cards | Harris<br>Knox                                                      | Issued<br>IMSCIENCES | US | Regular    | May 30, 2001  | 09/866,785 | June 24, 2003 | 6,582,133 |
| TR-032-CA       | Module and Method for Interconnecting Optoelectronic Cards | Harris<br>Knox                                                      | Issued<br>IMSCIENCES | CA | Regular    | May 30, 2001  | 2,349,494  | Sept 28, 2004 | 2,349,494 |

|           |                                                                                                                                                               |                                                  |                      |    |         |               |            |              |           |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|----------------------|----|---------|---------------|------------|--------------|-----------|
| TR-034-US | Network Resource Allocation Methods and Systems                                                                                                               | Lee<br>Johnsen<br>Viergge                        | Issued<br>IMSCIENCES | US | Regular | July 31, 2001 | 09/917,669 | Aug 31, 2004 | 6,785,737 |
| TR-034-CA | Network Resource Allocation Methods and Systems                                                                                                               | Lee<br>Johnsen<br>Viergge                        | Issued<br>IMSCIENCES | CA | Regular | July 31, 2001 | 2,354,353  | Jan 3, 2006  | 2,354,353 |
| TR-037-US | Label Distribution Protocol Supporting Multiple Classes of Service in a Multi Protocol Label Switching (MPLS) Network, Methods and MPLS Network Using Thereof | Ganti<br><br>Seddigh<br><br>Nandy                | Issued               | US | Regular | Mar 28, 2002  | 10/107,333 | 27-Feb-07    | 7,184,434 |
| TR-037-CA | Label Distribution Protocol Supporting Multiple Classes of Service in a Multi Protocol Label Switching (MPLS) Network, Methods and MPLS Network Using Thereof | Ganti<br><br>Seddigh<br><br>Nandy                | Filed                | CA | Regular | Mar 28, 2002  | 2,379,594  |              |           |
| TR-038-CA | Real-Time Method For Bit-Reversal of Large Size Arrays                                                                                                        | Jin                                              | Issued<br>IMSCIENCES | CA | Regular | July 9, 2001  | 2,352,683  | Nov 15, 2005 | 2,352,683 |
| TR-038-US | Real-Time Method For Bit-Reversal of Large Size Arrays                                                                                                        | Jin                                              | Issued<br>IMSCIENCES | US | Regular | July 9, 2001  | 09/900,153 | Sept 7, 2004 | 6,789,097 |
| TR-041-US | Topology Discovery in Optical WDM Networks                                                                                                                    | Obeda<br>Bierman<br>Dang<br>Nelles<br>Neustadter | Issued               | US | Regular | Sept 27, 2001 | 09/963,501 | Nov 22, 2005 | 6,968,131 |
| TR-041-CA | Topology Discovery in Optical WDM Networks                                                                                                                    | Obeda<br>Bierman<br>Dang<br>Nelles<br>Neustadter | Filed                | CA | Regular | Sept 27, 2001 | 2,357,988  |              |           |

|           |                                                                   |                                                  |             |     |         |              |              |              |           |
|-----------|-------------------------------------------------------------------|--------------------------------------------------|-------------|-----|---------|--------------|--------------|--------------|-----------|
| TR-041-EP | Topology Discovery in Optical WDM Networks                        | Obeda<br>Bierman<br>Dang<br>Nelles<br>Neustadter | Filed       | EPO | PCT     | June 4, 2002 | 2,732,282.50 |              |           |
| TR-043-US | System and Method for Performing Pre-emptive Protection Switching | Vieregge<br>Johnsen<br>Carpini<br>Donnelly       | Issued      | US  | Regular | Dec 26, 2001 | 10/025,868   | July 5, 2005 | 6,915,463 |
| TR-043-CA | System and Method for Performing Pre-emptive Protection Switching | Vieregge<br>Johnsen<br>Carpini<br>Donnelly       | Filed       | CA  | Regular | May 10, 2002 | 2,385,948    |              |           |
| TR-047-CA | Method and Apparatus for Network Link Planning                    | Braun<br><br>Gholamhosseini                      | Filed       | CA  | PCT     | July 8, 2002 | 2,455,569    |              |           |
| TR-048-US | Control Communications in Networks                                | Dang<br><br>Heatley                              | Issued      | US  | Regular | Aug 23, 2001 | 09/934,851   | Apr 25, 2006 | 7,035,209 |
| TR-048-CA | Control Communications in Networks                                | Dang<br><br>Heatley                              | Filed       | CA  | Regular | Apr 19, 2002 | 2,382,505    |              |           |
| TR-051-US | TDM-Quality Voice Over Packet                                     | Skemer                                           | Issued      | US  | Regular | Oct 15, 1999 | 09/419,471   | May 27, 2003 | 6,570,849 |
| TR-052-US | A Method of Labeling Data Units with a Domain Field               | Skemer                                           | Issued      | US  | Regular | Dec 10, 1999 | 09/464,452   | May 20, 2003 | 6,567,406 |
| TR-053-CA | Distributed Subscriber Management System                          | Skemer                                           | Filed       | CA  | Regular | Jan 14, 2000 | 2,296,213    |              |           |
| TR-053-US | Distributed Subscriber Management System                          | Skemer                                           | OA Received | US  | Regular | Jan 8, 2001  | 09/755,037   |              |           |

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|-----------|----------------------------------------------------------------------------------------|--------------------------|----------------------|----|---------|---------------|------------|--------------|-----------|
| TR-056-CA | Avoiding Amplified Spontaneous Emission Loops in Optical Networks                      | Kelly Wan                | Filed                | CA | Regular | May 10, 2002  | 2,385,846  |              |           |
| TR-058-US | Method and System for Traffic Management in Packet Networks Using Random Early Marking | Zboril                   | Issued<br>IMSCIENCES | US | Regular | Oct 4, 2001   | 09/969,785 | Dec 20, 2005 | 6,977,943 |
| TR-058-CA | Method and System for Traffic Management in Packet Networks Using Random Early Marking | Zboril                   | Filed<br>IMSCIENCES  | CA | Regular | Oct 4, 2001   | 2,358,284  |              |           |
| TR-060-US | Monitor, System and Method for Monitoring Performance of a Scheduler                   | Saint-Hilaire<br>Hristov | Issued<br>IMSCIENCES | US | Regular | Dec 28, 2001  | 10/028,286 | 15-Aug-06    | 7,092,360 |
| TR-060-CA | Monitor, System and Method for Monitoring Performance of a Scheduler                   | Saint-Hilaire<br>Hristov | Filed<br>IMSCIENCES  | CA | Regular | July 2, 2002  | 2,392,498  |              |           |
| TR-067-CA | Protection System and Method for Resilient Packet Ring (RPR) Interconnection           | Lee<br>Bacque            | Filed                | CA | Regular | July 10, 2002 | 2,392,942  |              |           |
| TR-067-US | Protection System and Method for Resilient Packet Ring (RPR) Interconnection           | Lee<br>Bacque            | Filed                | US | Regular | July 10, 2002 | 10/191,548 |              |           |
| TR-068-US | Label Switched Routing System and Method                                               | Marian<br>Oprea          | Issued<br>IMSCIENCES | US | Regular | Oct 19, 2001  | 09/981,887 | Jan 3, 2006  | 6,982,977 |
| TR-068-CA | Label Switched Routing System and Method                                               | Marian<br>Oprea          | Filed<br>IMSCIENCES  | CA | Regular | May 10, 2002  | 2,385,844  |              |           |

|                 |                                                                                   |                                           |        |     |            |              |            |               |           |
|-----------------|-----------------------------------------------------------------------------------|-------------------------------------------|--------|-----|------------|--------------|------------|---------------|-----------|
| TR-073-US       | Real-Time Method and Apparatus for Performing a Large Size Fast Fourier Transform | Jin Wan<br>Marziliano                     | Issued | US  | Regular    | Dec 26, 2001 | 10/025,870 | Nov 8, 2005   | 6,963,892 |
| TR-073-CA       | Real-Time Method and Apparatus for Performing a Large Size Fast Fourier Transform | Jin Wan<br>Marziliano                     | Filed  | CA  | Regular    | May 17, 2002 | 2,386,711  |               |           |
| TR-074-CA #1    | Channel Identification in Communications Networks                                 | Wan Remedios Jin Chimfwembe<br>Marziliano | Filed  | CA  | Regular    | Oct 5, 2001  | 2,358,382  |               |           |
| TR-074-US       | Channel Identification in Communications Networks                                 | Wan Remedios Jin Chimfwembe               | Issued | US  | Regular    | Oct 10, 2001 | 09/972,991 | 30-May-06     | 7,054,556 |
| TR-074-US-CIP#1 | Channel Identification in Communications Networks                                 | Wan Remedios Jin Chimfwembe               | Issued | US  | CIP        | Feb 8, 2002  | 10/067,748 | 02-Jan-07     | 7,158,723 |
| TR-074-US-CIP#2 | Channel Identification in Communications Networks                                 | Wan Remedios Jin Chimfwembe               | Issued | US  | CIP        | Oct 4, 2002  | 10/263,959 | 26-Dec-06     | 7,155,122 |
| TR-074-CA#2     | Channel Identification in Communications Networks                                 | Wan Remedios Jin Chimfwembe               | Filed  | CA  | PCT        | Oct 4, 2002  | 2,458,383  |               |           |
| TR-074-EP       | Channel Identification in Communications Networks                                 | Wan Remedios Jin Chimfwembe               | Issued | EPO | PCT        | Oct 4, 2002  | 2764481.6  |               | 1433278   |
| TR-074-EP-DIV   | Channel Identification in Communications Networks                                 | Wan Remedios Jin Chimfwembe               | Issued | EPO | Divisional | Nov 25, 2004 | 4027996    | 30-May-06     | 1508988   |
| TR-075-US       | Method and Apparatus for Spectrum Analysis with Variable Detection                | Jin                                       | Issued | US  | Regular    | Nov 26, 2001 | 09/991,683 | July 22, 2003 | 6,597,161 |

|           |                                                                                                             |            |        |            |          |            |        |            |        |            |        |       |        |       |        |       |           |                                                                                                                     |    |         |               |            |              |           |  |  |
|-----------|-------------------------------------------------------------------------------------------------------------|------------|--------|------------|----------|------------|--------|------------|--------|------------|--------|-------|--------|-------|--------|-------|-----------|---------------------------------------------------------------------------------------------------------------------|----|---------|---------------|------------|--------------|-----------|--|--|
| Wan       | Remedios                                                                                                    | Chimfwembe | Jin    | Wan        | Remedios | Chimfwembe | Mark   | Patriarche | Mark   | Patriarche | Ng     | Ng    | Marian | Oprea | Marian | Oprea | TR-075-CA | Method and Apparatus for Spectrum Analysis with Variable Detection Latency and Multiple Layer Coherent Integrations | CA | PCT     | June 10, 2002 | 2,464,251  |              |           |  |  |
|           |                                                                                                             |            |        |            |          |            |        |            |        |            |        |       |        |       |        |       |           |                                                                                                                     |    |         |               |            |              |           |  |  |
|           |                                                                                                             |            |        |            |          |            |        |            |        |            |        |       |        |       |        |       |           |                                                                                                                     |    |         |               |            |              |           |  |  |
| TR-077-US | Enhanced Packet Network and Method for Carrying Multiple Packet Streams Within a Single Label Switched Path | US         | Issued | IMSCIENCES | Mark     | Patriarche | Mark   | Patriarche | Ng     | Ng         | Marian | Oprea | Marian | Oprea | Marian | Oprea | TR-077-US | Enhanced Packet Network and Method for Carrying Multiple Packet Streams Within a Single Label Switched Path         | US | Regular | Dec 26, 2001  | 10/025,872 | Mar 14, 2006 | 7,012,933 |  |  |
|           |                                                                                                             |            |        |            |          |            |        |            |        |            |        |       |        |       |        |       |           |                                                                                                                     |    |         |               |            |              |           |  |  |
|           |                                                                                                             |            |        |            |          |            |        |            |        |            |        |       |        |       |        |       |           |                                                                                                                     |    |         |               |            |              |           |  |  |
| TR-080-US | All-Optical Dynamic Gain Equalizer                                                                          | US         | Issued | IMSCIENCES | Ng       | Ng         | Marian | Oprea      | Marian | Oprea      | Marian | Oprea | Marian | Oprea | Marian | Oprea | TR-080-US | All-Optical Dynamic Gain Equalizer                                                                                  | US | Regular | Mar 5, 2002   | 10/087,863 | Sept 7, 2004 | 6,788,844 |  |  |
|           |                                                                                                             |            |        |            |          |            |        |            |        |            |        |       |        |       |        |       |           |                                                                                                                     |    |         |               |            |              |           |  |  |
|           |                                                                                                             |            |        |            |          |            |        |            |        |            |        |       |        |       |        |       |           |                                                                                                                     |    |         |               |            |              |           |  |  |
| TR-081-US | Method and System for Automatic Address Allocation in a Network and Network Protocol Therefor               | US         | Issued | IMSCIENCES | Marian   | Oprea      | Marian | Oprea      | Marian | Oprea      | Marian | Oprea | Marian | Oprea | Marian | Oprea | TR-081-US | Method and System for Automatic Address Allocation in a Network and Network Protocol Therefor                       | US | Regular | Dec 21, 2001  | 10/023,758 | Feb 14, 2006 | 7,000,029 |  |  |
|           |                                                                                                             |            |        |            |          |            |        |            |        |            |        |       |        |       |        |       |           |                                                                                                                     |    |         |               |            |              |           |  |  |
|           |                                                                                                             |            |        |            |          |            |        |            |        |            |        |       |        |       |        |       |           |                                                                                                                     |    |         |               |            |              |           |  |  |
| TR-081-CA | Method and System for Automatic Address Allocation in a Network and Network Protocol Therefor               | CA         | Filed  | IMSCIENCES | Marian   | Oprea      | Marian | Oprea      | Marian | Oprea      | Marian | Oprea | Marian | Oprea | Marian | Oprea | TR-081-CA | Method and System for Automatic Address Allocation in a Network and Network Protocol Therefor                       | CA | Regular | June 10, 2002 | 2,390,331  |              |           |  |  |
|           |                                                                                                             |            |        |            |          |            |        |            |        |            |        |       |        |       |        |       |           |                                                                                                                     |    |         |               |            |              |           |  |  |
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|-------------|-----------------------------------------------------------------------------------------------|-----------------------------------------|----------------------|----|---------|---------------|------------|---------------|-----------|
| TR-082-US   | An Apparatus and Method for Controlling Data Transmission                                     | Russell<br>Chouinard<br>Van Asten       | Filed                | US | Regular | Sept 20, 2002 | 10/247,472 |               |           |
| TR-082-CA#2 | An Apparatus and Method for Controlling Data Transmission                                     | Russell<br>Chouinard<br>Van Asten       | Filed                | CA | Regular | Oct 11, 2002  | 2,407,966  |               |           |
| TR-082-CA#1 | An Apparatus and Method for Controlling Data Transmission                                     | Russell<br>Chouinard<br>Van Asten       | Filed                | CA | Regular | Dec 31, 2001  | 2,366,397  |               |           |
| TR-083-CA   | Interconnect System with Error Correction                                                     | Maung<br>Raahemi<br>Zboril<br>Van Asten | Filed<br>IMSCIENCES  | CA | Regular | Nov 30, 2001  | 2,354,072  |               |           |
| TR-083-US   | Interconnect System with Error Correction                                                     | Maung<br>Raahemi<br>Zboril<br>Van Asten | Issued<br>IMSCIENCES | US | Regular | Dec 5, 2001   | 10/004,441 | Dec 27, 2005  | 6,981,200 |
| TR-086-US   | Flexible Optical Network Architecture and Optical Add/Drop Multiplexer/Demultiplexer Therefor | Liu                                     | Issued<br>IMSCIENCES | US | CIP     | Dec 13, 2001  | 10/013,676 | July 15, 2003 | 6,594,045 |
| TR-086-CA   | Flexible Optical Network Architecture and Optical Add/Drop Multiplexer/Demultiplexer Therefor | Liu                                     | Filed<br>IMSCIENCES  | CA | Regular | Nov 8, 2002   | 2,411,630  |               |           |

|           |                                                                                            |                             |        |    |         |              |            |           |           |
|-----------|--------------------------------------------------------------------------------------------|-----------------------------|--------|----|---------|--------------|------------|-----------|-----------|
| TR-091-US | Method and Apparatus<br>for Integrated Network<br>Planning and Business<br>Modeling        | Ngi<br>Marcellus<br>Beamish | Filed  | US | Regular | Apr 24, 2002 | 10/128,340 |           |           |
| TR-091-CA | Method and Apparatus<br>for Integrated Network<br>Planning and Business<br>Modeling        | Ngi<br>Marcellus<br>Beamish | Filed  | CA | PCT     | Jan 10, 2003 | 2,475,103  |           |           |
| TR-094-US | Method and Apparatus<br>for Selecting Maximally<br>Disjoint Shortest Paths<br>in a Network | Wong<br>Pieda<br>Neustadter | Issued | US | Regular | Apr 15, 2002 | 10/121,654 | 16-May-06 | 7,046,634 |
| TR-094-CA | Method and Apparatus<br>for Selecting Maximally<br>Disjoint Shortest Paths<br>in a Network | Wong<br>Pieda<br>Neustadter | Filed  | CA | Regular | Jan 30, 2003 | 2,417,864  |           |           |
| TR-095-US | Methods and Systems<br>Preventing Frame Mis-<br>Ordering in Explicitly<br>Routed Networks  | Grabner<br>Lee<br>Van Gulik | Filed  | US | Regular | May 9, 2002  | 10/140,997 |           |           |
| TR-095-CA | Methods and Systems<br>Preventing Frame Mis-<br>Ordering in Explicitly<br>Routed Networks  | Grabner<br>Lee<br>Van Gulik | Filed  | CA | Regular | Jan 30, 2003 | 2,417,683  |           |           |

|             |                                                                     |                                      |                      |    |             |               |            |              |           |
|-------------|---------------------------------------------------------------------|--------------------------------------|----------------------|----|-------------|---------------|------------|--------------|-----------|
| TR-097-US   | High-Speed Packet Memory                                            | Van Asten<br>Maung<br>Dada           | Issued<br>IMSCIENCES | US | Regular     | July 15, 2002 | 10/194,277 | Oct 24, 2006 | 7,126,959 |
| TR-101-US   | Communication System with Balanced Transmission Bandwidth           | Zboril                               | Issued               | US | Regular     | June 18, 2002 | 10/173,304 | Oct 24, 2006 | 7,126,970 |
| TR-101-CA   | Communication System with Balanced Transmission Bandwidth           | Zboril                               | Filed                | CA | Regular     | June 18, 2002 | 2,390,883  |              |           |
| TR-102-US   | Method and Apparatus of Computation Reduction for Tone Detection    | Jin<br>Wan<br>Remedios<br>Marziliano | Issued               | US | Regular     | Apr 30, 2002  | 10/134,382 | May 4, 2004  | 6,732,058 |
| TR-102-CA#1 | Method and Apparatus of Computation Reduction for Tone Detection    | Jin<br>Wan<br>Remedios<br>Marziliano | Filed                | CA | Provisional | Mar 20, 2002  | 2,377,623  |              |           |
| TR-106-CA   | A Switch and a Switching Apparatus for a Communication Network      | Wirth<br>Zboril<br>Oprea             | Filed                | CA | Regular     | Nov 8, 2002   | 2,411,637  |              |           |
| TR-106-US   | A Switch and a Switching Apparatus for a Communication Network      | Wirth<br>Zboril<br>Oprea             | Issued               | US | Regular     | Mar 29, 2002  | 10/108,515 | 30-Jan-07    | 7,170,895 |
| TR-110-US   | Method and System of Measuring Latency and Packet Loss in a Network | Edmison<br>Johnsen<br>Carpini        | Issued<br>IMSCIENCES | US | Regular     | Apr 30, 2002  | 10/134,553 | Oct 24, 2006 | 7,127,508 |

|                 |                                                                                                   |                                            |        |            |    |            |               |            |              |           |
|-----------------|---------------------------------------------------------------------------------------------------|--------------------------------------------|--------|------------|----|------------|---------------|------------|--------------|-----------|
| TR-110-CA       | Method and System of Measuring Latency and Packet Loss in a Network                               | Edmison<br>Johnsen<br>Carpini              | Filed  | IMSCIENCES | CA | PCT        | Oct 11, 2002  | 2,466,913  |              |           |
| TR-113-US       | A Method for Visualization of Optical Network Topology                                            | Nelles<br>Obeda<br>Adamski<br>Donnelly     | Issued |            | US | Regular    | Mar 20, 2002  | 10/101,155 | 16-May-06    | 7,047,496 |
| TR-113-CA       | A Method for Visualization of Optical Network Topology                                            | Nelles<br>Obeda<br>Adamski<br>Donnelly     | Filed  |            | CA | Regular    | Nov 8, 2002   | 2,411,423  |              |           |
| TR-113-US (DIV) | A Method for Visualization of Optical Network Topology                                            | Nelles<br>Obeda<br>Adamski<br>Donnelly     | Filed  |            | US | Divisional | Feb 7, 2006   | 11/348,322 |              |           |
| TR-119-US       | Method and System for Identification of Channels in an Optical Network                            | Obeda<br>Remedios<br>Wan<br>Kelly          | Filed  |            | US | Regular    | Sept 30, 2002 | 10/259,290 |              |           |
| TR-119-CA       | Method and System for Identification of Channels in an Optical Network                            | Obeda<br>Remedios<br>Wan<br>Kelly          | Filed  |            | CA | Regular    | June 2, 2003  | 2,430,797  |              |           |
| TR-119-US-CIP   | Method and System for Identification of Channels in an Optical Network                            | Obeda<br>Remedios<br>Wan<br>Kelly          | Issued |            | US | CIP        | June 3, 2003  | 10/452,511 | 28-Nov-06    | 7,142,783 |
| TR-121-US       | Method and Apparatus for Gain Excursion Minimization in Automatic Gain Controlled Optical Systems | Ng<br>Wan<br>Remedios<br>Bierman<br>Nguyen | Issued |            | US | Regular    | July 16, 2002 | 10/195,495 | June 7, 2005 | 6,903,867 |

|           |                                                                                                                                                                  |                                |        |    |         |               |            |               |           |
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| TR-121-CA | Method and System for Multi-Level Management of an Optical Network Including Automatic Initialization                                                            | Ng Wan Remedios Bierman Nguyen | Filed  | CA | PCT     | Jan 10, 2003  | 2,472,737  |               |           |
| TR-122-US | Method and System for Automatic Initialization of an Optical Network                                                                                             | Wan Remedios Ng                | Issued | US | Regular | Oct 1, 2002   | 10/260,621 | June 27, 2006 | 7,068,932 |
| TR-134-CA | Multi-Constraint Routing System and Method                                                                                                                       | Lee                            | Filed  | CA | PCT     | Aug 9, 2002   | 2,466,905  |               |           |
| TR-134-US | Multi-Constraint Routing System and Method                                                                                                                       | Lee                            | Filed  | US | CIP     | May 23, 2002  | 10/152,832 |               |           |
| TR-135-CA | System and Method for Providing Protection of Data Communications in Packet-Based Networks                                                                       | Mark Zboril                    | Filed  | CA | Regular | Nov 8, 2002   | 2,411,410  |               |           |
| TR-135-US | System and Method for Providing Protection of Data Communications in Packet-Based Networks                                                                       | Mark Zboril                    | Filed  | US | Regular | July 12, 2002 | 10/193,129 |               |           |
| TR-138-CA | System and Method for Distributed Resource Reservation Protocol - Traffic Engineering (RSVP-TE) Hitless Restart in Multi-Protocol Label Switching (MPLS) Network | Seddigh Nandy Bennett          | Filed  | CA | Regular | May 12, 2003  | 2,428,517  |               |           |

|           |                                                                                                                                                                  |                                       |         |    |         |              |            |              |           |
|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|---------|----|---------|--------------|------------|--------------|-----------|
| TR-138-US | System and Method for Distributed Resource Reservation Protocol - Traffic Engineering (RSVP-TE) Hitless Restart in Multi-Protocol Label Switching (MPLS) Network | Seddigh<br>Nandy<br>Bennett           | Filed   | US | Regular | May 12, 2003 | 10/435,458 |              |           |
| TR-142-CA | Fast Work-Conserving Round Robin Scheduling                                                                                                                      | Romanko                               | Filed   | CA | Regular | Feb 6, 2003  | 2,418,500  |              |           |
| TR-142-US | Fast Work-Conserving Round Robin Scheduling                                                                                                                      | Romanko                               | Allowed | US | Regular | Oct 21, 2002 | 10/273,857 |              |           |
| TR-143-CA | Method and System for Monitoring Performance of Optical Network                                                                                                  | Liu<br>Obeda<br>Vethanayagam<br>Oprea | Filed   | CA | Regular | May 3, 2002  | 2,384,581  |              |           |
| TR-143-US | Method and System for Monitoring Performance of Optical Network                                                                                                  | Liu<br>Obeda<br>Vethanayagam<br>Oprea | Issued  | US | Regular | May 2, 2002  | 10/136,407 | 27-Feb-07    | 7,184,660 |
| TR-151-US | Method and System for Determining Location and Value of Dispersion Compensating Modules in an Optical Network                                                    | Ng<br>Kelly<br>Pieda                  | Issued  | US | Regular | Oct 21, 2002 | 10/273,858 | Dec 7, 2004  | 6,829,406 |
| TR-151-CA | Method and System for Determining Location and Value of Dispersion Compensating Modules in an Optical Network                                                    | Ng<br>Kelly<br>Pieda                  | Filed   | CA | Regular | Feb 6, 2003  | 2,418,544  |              |           |
| TR-152-US | Duplex Reflective Re-Configurable Optical Add/Drop Multiplexer                                                                                                   | Kelly                                 | Issued  | US | Regular | May 19, 2003 | 10/440,222 | Dec 14, 2004 | 6,832,019 |

|           |                                                                                                            |                        |        |    |         |               |            |               |           |
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| TR-152-CA | Duplex Reflective Re-Configurable Optical Add/Drop Multiplexer                                             | Kelly                  | Filed  | CA | Regular | May 20, 2003  | 2,428,939  |               |           |
| TR-155-US | Method and System for Powering Up an Optical Network                                                       | McCloskey Braun Ng     | Filed  | US | Regular | July 18, 2003 | 10/621,413 |               |           |
| TR-155-CA | Method and System for Powering Up an Optical Network                                                       | McCloskey Braun Ng     | Filed  | CA | Regular | July 18, 2003 | 2,435,726  |               |           |
| TR-159-US | Method for Determining Optimal Location and Value of Dispersion Compensation Modules in an Optical Network | Ng                     | Issued | US | Regular | May 23, 2003  | 10/443,965 | Aug 24, 2004  | 6,782,159 |
| TR-159-CA | Method for Determining Optimal Location and Value of Dispersion Compensation Modules in an Optical Network | Ng                     | Filed  | CA | Regular | May 23, 2003  | 2,429,475  |               |           |
| TR-160-CA | Method and System for Precision Cross-Talk Cancellation in Optical Amplifiers                              | Chimfwembe Nguyen Chan | Filed  | CA | Regular | June 30, 2003 | 2,434,148  |               |           |
| TR-160-US | Method and System for Precision Cross-Talk Cancellation in Optical Amplifiers                              | Chimfwembe Nguyen Chan | Issued | US | Regular | June 30, 2003 | 10/607,968 | Apr 18, 2006  | 7,031,050 |
| TR-161-US | A Method for Describing Problems in a Telecommunications Network                                           | Scarth                 | Filed  | US | Regular | June 27, 2003 | 10/606,896 |               |           |
| TR-161-CA | A Method for Describing Problems in a Telecommunications Network                                           | Scarth                 | Filed  | CA | Regular | June 27, 2003 | 2,433,766  |               |           |
| TR-163-US | Optical Ring Interconnect                                                                                  | Bacque                 | Issued | US | Regular | July 7, 2003  | 10/612,908 | June 28, 2005 | 6,912,340 |

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|-----------|------------------------------------------------------------------------------------------|----------------------------------|-------------------------|----|---------|---------------|------------|--------------|-----------|
| TR-163-CA | Optical Ring Interconnect                                                                | Bacque                           | Filed IMSCIENCES        | CA | Regular | July 7, 2003  | 2,434,729  |              |           |
| TR-165-US | Method for Determining Locations and Gain Settings of Amplifiers in an Optical Network   | Ng<br>Kelly                      | Issued                  | US | Regular | May 22, 2003  | 10/443,058 | 16-May-06    | 7,046,426 |
| TR-165-CA | Method for Determining Locations and Gain Settings of Amplifiers in an Optical Network   | Ng<br>Kelly                      | Filed                   | CA | Regular | May 22, 2003  | 2,429,304  |              |           |
| TR-167-US | High-Speed Memory Having a Modular Structure                                             | Van Asten<br>Dada<br>Maung       | OA Responded IMSCIENCES | US | Regular | Sept 20, 2002 | 10/247,568 |              |           |
| TR-167-CA | High-Speed Memory Having a Modular Structure                                             | Van Asten<br>Dada<br>Maung       | Filed IMSCIENCES        | CA | Regular | Jan 30, 2003  | 2,417,862  |              |           |
| TR-168-US | Method and Apparatus for Controlling a Variable Optical Attenuator in an Optical Network | Bierman<br>Mohairram<br>Donnelly | Issued                  | US | Regular | May 19, 2003  | 10/440,247 | Jan 17, 2006 | 6,987,922 |
| TR-168-CA | Method and Apparatus for Controlling a Variable Optical Attenuator in an Optical Network | Bierman<br>Mohairram<br>Donnelly | Filed                   | CA | Regular | May 20, 2003  | 2,429,083  |              |           |
| TR-170-US | Method and System for Multi-Level Power Management in an Optical System                  | Ng<br>McCloskey                  | Filed                   | US | Regular | Aug 12, 2003  | 10/638,378 |              |           |

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|-----------|------------------------------------------------------------------------------------------------------|----------------------------------------------------|---------|-----|---------|---------------|------------|--------------|-----------|
| TR-170-CA | Method and System for Multi-Level Power Management in an Optical System                              | Ng                                                 | Filed   | CA  | Regular | Nov 20, 2003  | 2,450,152  |              |           |
| TR-171-US | Method and System for Selective Optical Payload Cancellation                                         | McCloskey<br>Remedios<br>Chan<br>Chimfwembe<br>Wan | Allowed | US  | Regular | Aug 7, 2003   | 10/635,561 |              |           |
| TR-171-CA | Method and System for Selective Optical Payload Cancellation                                         | Remedios<br>Chan<br>Chimfwembe<br>Wan              | Filed   | CA  | Regular | Aug 7, 2003   | 2,436,726  |              |           |
| TR-172-US | Reconfigurable Optical Add/Drop Multiplexer With Buried Dispersion Compensation Module               | Kelly                                              | Issued  | US  | Regular | Aug 8, 2003   | 10/636,664 | Aug 16, 2005 | 6,931,176 |
| TR-172-CA | Reconfigurable Optical Add/Drop Multiplexer With Buried Dispersion Compensation Module               | Kelly                                              | Filed   | CA  | Regular | Oct 9, 2003   | 2,444,078  |              |           |
| TR-172-AU | Reconfigurable Optical Add/Drop Multiplexer With Buried Dispersion Compensation Module               | Kelly                                              | Filed   | AU  | Regular | Nov 14, 2003  | 2003286050 |              |           |
| TR-172-EP | Reconfigurable Optical Add/Drop Multiplexer With Buried Dispersion Compensation Module               | Kelly                                              | Filed   | EPO | Regular | Nov 14, 2003  | 3776724.1  |              |           |
| TR-174-CA | Method and Apparatus for Operating Variable Optical Attenuator by Modulating the Attenuation Thereof | Scarth<br>Bierman<br>Grabner                       | Filed   | CA  | Regular | July 15, 2003 | 2,435,259  |              |           |

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| TR-174-US | Method and Apparatus<br>for Operating Variable<br>Optical Attenuator by<br>Modulating the<br>Attenuation Thereof | Scarth<br>Bierman<br>Grabner           | Issued | US  | Regular | July 15, 2003 | 10/618,604 | July 04, 2006 | 7,072,561 |
| TR-174-AU | Method and Apparatus<br>for Operating Variable<br>Optical Attenuator by<br>Modulating the<br>Attenuation Thereof | Scarth<br>Bierman<br>Grabner           | Filed  | AU  | PCT     | Jan 22, 2004  | 2004206598 |               |           |
| TR-174-EU | Method and Apparatus<br>for Operating Variable<br>Optical Attenuator by<br>Modulating the<br>Attenuation Thereof | Scarth<br>Bierman<br>Grabner           | Filed  | EPO | PCT     | Jan 22, 2004  | 4704159.5  |               |           |
| TR-175-CA | Method and Apparatus<br>for Optical Add/Drop<br>Multiplexing in Optical<br>Networks                              | Wan<br>Remedios<br>Oprea<br>Chimfwembe | Filed  | CA  | Regular | Nov 18, 2003  | 2,449,592  |               |           |
| TR-175-US | Method and Apparatus<br>for Optical Add/Drop<br>Multiplexing in Optical<br>Networks                              | Wan<br>Remedios<br>Oprea<br>Chimfwembe | Issued | US  | Regular | Aug 7, 2003   | 10/635,544 | 21-Nov-06     | 7,139,486 |

|           |                                                                                                               |                                                        |        |    |         |               |            |           |           |
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| TR-176-CA | A Method and System for Light Path Monitoring in an Optical Communication Network                             | Seddigh<br>Nandy<br>Obeda<br>Patriarche<br>Neustadter  | Filed  | CA | Regular | Dec 2, 2003   | 2,451,888  |           |           |
| TR-176-US | A Method and System for Light Path Monitoring in an Optical Communication Network                             | Seddigh<br>Nandy<br>Obeda<br>Patriarche<br>Neustadter  | Filed  | US | Regular | Dec 2, 2003   | 10/725,025 |           |           |
| TR-177-CA | Method and Apparatus for Compensating for Side Effects of Cross Gain Modulation in Amplified Optical Networks | Obeda<br>Bierman<br>Bacque<br>Kelly<br>Remedios<br>Wan | Issued | CA | Regular | Dec 19, 2003  | 2,453,813  |           |           |
| TR-177-US | Method and Apparatus for Compensating for Side Effects of Cross Gain Modulation in Amplified Optical Networks | Obeda<br>Bierman<br>Bacque<br>Kelly<br>Remedios<br>Wan | Issued | US | Regular | July 29, 2003 | 10/628,418 | 24-Oct-06 | 7,127,165 |

|           |                                                                                                                    |                                        |        |    |         |               |            |             |           |
|-----------|--------------------------------------------------------------------------------------------------------------------|----------------------------------------|--------|----|---------|---------------|------------|-------------|-----------|
| TR-182-CA | Method for Determining Location and Gain Settings of Amplifiers in an Optical Network by Using a Genetic Algorithm | Ng Kelly                               | Filed  | CA | Regular | May 23, 2003  | 2,429,474  |             |           |
| TR-182-US | Method for Determining Location and Gain Settings of Amplifiers in an Optical Network by Using a Genetic Algorithm | Ng Kelly                               | Issued | US | Regular | May 23, 2003  | 10/443,955 | May 2, 2006 | 7,038,837 |
| TR-190-US | Method and System for Operating a Plurality of Electronic Variable Optical Attenuators (eVOAs)                     | Scarth Bierman Obeda Moharram Donnelly | Issued | US | Regular | July 15, 2003 | 10/618,582 | Feb 7, 2006 | 6,996,323 |
| TR-190-CA | Method and System for Operating a Plurality of Electronic Variable Optical Attenuators (eVOAs)                     | Scarth Bierman Obeda Moharram Donnelly | Filed  | CA | Regular | July 15, 2003 | 2,435,131  |             |           |
| TR-191-US | Optical Wavekey Network and Method for Distributing Management Information Therein                                 | Neustadter Grabner                     | Filed  | US | Regular | Dec 12, 2003  | 10/733,327 |             |           |
| TR-191-CA | Optical Wavekey Network and Method for Distributing Management Information Therein                                 | Neustadter Grabner                     | Filed  | CA | Regular | Dec 15, 2003  | 2,453,079  |             |           |
| TR-192-US | System and Method for Power Management in an Optical Network                                                       | Ng Remedios Kelly Wan Groves           | Issued | US | Regular | Sept 30, 2003 | 10/673,790 | 21-Nov-06   | 7,139,480 |

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| TR-192-CA | System and Method for Power Management in an Optical Network                                       | Ng<br>Remedios<br>Kelly<br>Wan<br>Groves | Filed  | CA | Regular | Mar 2, 2004  | 2,459,963  |           |           |
| TR-199-US | Method and Apparatus for Suppression of Alarms Across Network Elements                             | Castonguay<br>Groves                     | Filed  | US | Regular | Nov 12, 2004 | 10/986,347 |           |           |
| TR-199-CA | Method and Apparatus for Suppression of Alarms Across Network Elements                             | Castonguay<br>Groves                     | Filed  | CA | Regular | Nov 12, 2004 | 2,487,629  |           |           |
| TR-200-US | A Method and System for Network Wide Fault Isolation in an Optical Network                         | MacDonald                                | Filed  | US | Regular | Nov 5, 2004  | 10/981,591 |           |           |
| TR-200-CA | A Method and System for Network Wide Fault Isolation in an Optical Network                         | MacDonald                                | Filed  | CA | Regular | Nov 4, 2004  | 2,486,780  |           |           |
| TR-202-US | Methods and Apparatus for Detecting a Faulty Component along an Optical Path in an Optical Network | Bacque<br>Wan<br>Remedios<br>Ng          | Issued | US | Regular | Feb 25, 2005 | 11/065,098 | 21-Nov-06 | 7,139,069 |
| TR-202-CA | Methods and Apparatus for Detecting a Faulty Component Along an Optical Path in an Optical Network | Bacque<br>Wan<br>Remedios<br>Ng          | Filed  | CA | Regular | Feb 25, 2005 | 2,498,441  |           |           |

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| TR-204-US   | A Method for Network Commissioning Using Amplified Spontaneous Emission (ASE) Sources                                    | Ng<br>De Rocher<br>Remedios<br>Bacque<br>Wan | Abandoned<br>by USPTO<br>mistake - will<br>be reinstated | US  | Regular     | July 12, 2005 | 11/178,330    |  |  |
| TR-204-PCT  | A Method for Network Commissioning Using Amplified Spontaneous Emission (ASE) Sources                                    | Ng<br>De Rocher<br>Remedios<br>Bacque<br>Wan | Filed                                                    | PCT | PCT         | July 12, 2005 | CA2005/001071 |  |  |
| TR-205-Prov | A Method and System for Cost Minimization of Remotely Located Telecommunications Equipment                               | Bacque                                       | Filed                                                    | US  | Provisional | Feb 7, 2006   | 60/765,732    |  |  |
| TR-206-US   | Method and System for Providing a Signature Signal in an Optical Network in the Event of Loss of a Client                | Holmes<br>Reepschlager                       | Filed                                                    | US  | Regular     | July 20, 2005 | 11/184,966    |  |  |
| TR-206-CA   | Method and System for Providing a Signature Signal in an Optical Network in the Event of Loss of a Client                | Holmes<br>Reepschlager                       | Filed                                                    | CA  | Regular     | July 20, 2005 | 2,512,710     |  |  |
| TR-214-US   | Method and System for Improved management of a communication network by extending the simple network management protocol | Spicer<br>Edmison                            | Filed                                                    | US  | Regular     | June 15, 2006 | 11/452,922    |  |  |

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| TR-214-CA | Method and System for Improved management of a communication network by extending the simple network management protocol | Spicer                       | Filed | CA | Regular | June 15, 2006 | 2,550,323  |  |  |
| TR-215-US | A Method of Avoiding Amplified Spontaneous Emission Loops in an Optical Network                                          | Edmison<br>Carpini<br>Spicer | Filed | US | Regular | June 14, 2006 | 11/452,200 |  |  |

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| TR-215-CA         | A Method of Avoiding Amplified Spontaneous Emission Loops in an Optical Network                            | Carpini<br>Spicer                         | Filed | CA | Regular     | June 14, 2006  | 2,550,559  |  |  |
| TR-218-US-prov    | A Method for Network Upgrade Using Amplified Spontaneous Emission (ASE) Sources                            | De Rocher<br>Macdonald<br>Carpini         | Filed | US | Provisional | Dec 27, 2005   | 60/753,477 |  |  |
| TR-221-US         | Noise Tone Avoidance in Optical Networks                                                                   | Remedios<br>Bacque<br>Wan                 | Filed | US | Provisional | 30-May-06      | 60/808,977 |  |  |
| TR-224-US         | High Precision Loss Variation Measurements using Wavelength Tracker Techniques                             | De Rocher<br>Bacque<br>Remedios<br>Harney | Filed | US | Provisional | April 06, 2006 | 60/789,597 |  |  |
| TR-225-US         | Method and System for an Improved Sub-Carrier Based Power Measurement in Optical Networks                  | Wan                                       | Filed | US | Provisional | 30-May-06      | 60/808,975 |  |  |
| TR-230-US<br>Back | Method and system for distributed measurement and compensation of chromatic dispersion in optical networks | Wan                                       | Filed | US | Provisional | 21-Jan-07      | 60/885,909 |  |  |

