

PATENT ASSIGNMENT

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SUBMISSION TYPE:

NEW ASSIGNMENT

NATURE OF CONVEYANCE:

ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
Enablence USA FTTx Networks Inc.	09/15/2011

RECEIVING PARTY DATA

Name:	Aurora Networks, Inc.
Street Address:	5400 Betsy Ross Drive
City:	Santa Clara
State/Country:	CALIFORNIA
Postal Code:	95054

PROPERTY NUMBERS Total: 30

Property Type	Number
Patent Number:	6654565
Patent Number:	7039329
Patent Number:	7146104
Patent Number:	7038910
Patent Number:	7355848
Patent Number:	7529485
Patent Number:	7340180
Patent Number:	7616901
Patent Number:	6973271
Patent Number:	7269350
Patent Number:	7599622
Patent Number:	7953325
Patent Number:	7218855
Patent Number:	7623786
Patent Number:	7333726

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PATENT
REEL: 027032 FRAME: 0352

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Patent Number:	7085281
Patent Number:	7197244
Patent Number:	7058260
Patent Number:	7389031
Patent Number:	7184664
Patent Number:	7190901
Patent Number:	7454141
Patent Number:	7583897
Patent Number:	7593639
Patent Number:	7877014
Patent Number:	7986880
Patent Number:	6711337
Patent Number:	6950593
Patent Number:	7130541
Patent Number:	7606492

CORRESPONDENCE DATA

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ATTORNEY DOCKET NUMBER:	69159/4
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NAME OF SUBMITTER:	Tuan Dinh
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Total Attachments: 5

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

ASSIGNMENT

WHEREAS, **Enablence USA FTTx Networks Inc.**, a Delaware corporation, with offices at 1075 Windward Ridge Parkway, Suite 170, Alpharetta, GA 30005 ("ASSIGNOR") owns certain issued patents and patent applications, as listed in Exhibit A attached hereto and incorporated herein by this reference ("PATENT"); and

WHEREAS, **Aurora Networks, Inc.**, a Delaware corporation, with offices at 5400 Betsy Ross Drive, Santa Clara, CA 95054 ("ASSIGNEE"), desires to acquire all of the right, title and interest of ASSIGNOR in, to and under the PATENTS;

WHEREAS, ASSIGNOR and ASSIGNEE, are parties to a certain Asset Purchase Agreement dated August 29, 2011 and other related agreements, assigning, among other things, all right, title and interest in and to the PATENT from ASSIGNOR to ASSIGNEE;

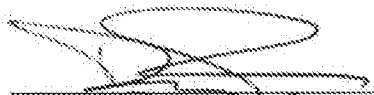
NOW, THEREFORE, in consideration of the sum paid by ASSIGNEE to ASSIGNOR pursuant to such Asset Purchase Agreement, the receipt and sufficiency of which hereby is acknowledged, ASSIGNOR does hereby sell, assign, transfer and convey unto ASSIGNEE its entire right, title and interest in and to the PATENT, including all divisions, continuations, continuations-in-part, reexaminations, substitutions, reissues, extensions and renewals of the applications and registrations for the PATENT (and the right to apply for any of the foregoing); all rights to causes of action and remedies related thereto (including, without limitation, the right to sue for past, present or future infringement, misappropriation or violation of rights related to the foregoing); and any and all other rights and interests arising out of, in connection with or in relation to the PATENT and ASSIGNEE does hereby accept this assignment.

[Signature page follows]

IN WITNESS WHEREOF, ASSIGNOR has caused this Assignment to be duly executed by an authorized officer on this 26 day of September, 2011.

Enablence USA FTTx Networks Inc.

By:



Name: David Toews

Title: Treasurer

PROVINCE OF ONTARIO)
) ss.
CITY OF TORONTO)

On September 26, 2011, before me, the undersigned notary public in and for said City and Province, personally appeared at 1st Clair East, Toronto, Ontario

 personally known to me [or]
✓ proved to me on the basis of satisfactory evidence

to be the person(s) whose name(s) David Toews subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity(ies) and that, by his signature(s) on the instrument, the person(s) or the entity(ies) upon behalf of which the person(s) acted executed the instrument.

WITNESS my hand and official seal.

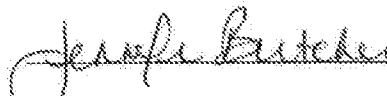

My commission expires on _____

EXHIBIT A

PATENT

Issued Patents

Patent Applications

Wave7 Optics (Enablers - Alphabetic) Registered Intellectual Property

Index #	Patent #	Art Area	Issue Date	Priority Date	Title	Summary and Value	Inventors	Provisional
Written by an engineer, not a patent attorney								
1	6,884,565 80/10 encoding and faster turn-on/ff		25/11/2003	20/09/2001	System and Method for Increasing Upstream Communications Efficiency in an Optical Network	Increasing upstream transmission communication efficiency when using techniques with an 80/10 encoding (index to -320, but examines music as bifurcates the case - this patent covers the bifurcated side)	John Kenney	60219,355
2	7,028,328 80/10 encoding and faster turn-on/ff		08/09/2006	20/09/2001	System and Method for Increasing Upstream Communications Efficiency in an Optical Network	Increasing upstream transmission communication efficiency when using techniques with an 80/10 encoding (index to -320, but examines music as bifurcates the case - this patent covers the bifurcated side)	John Kenney	60219,356
3	7,148,161 Data over Coax		05/12/2009	11/04/2002	Method And System For Providing A Return Data Path For Legacy Transponders By Using Existing Electrical Wires As A Return Path	Clear over coax. This probably covers some of what several people are doing with HFC and HFC, as a obvious. It is a good defensive patent, and as optical net logs, with HFC could, penetrate the market, we may be able to do some licensing.	James O. Farmer	60213,330
4	7,028,810 Host network methods time		08/09/2006	07/01/2002	System and Method for Forwarding Host From a Subscriber Optical Interface	Method of constructing an optical OLT for a host network. Most of a few patents on the subject. When the industry is not going this way now, this earlier teaches some interesting things that could be done with subscriber OLTs to improve network performance and possibly reduce budget.	Ronald L. Hodge, James O. Farmer	60244,039
5	7,028,840 Host network methods time		08/09/2006	07/01/2002	System and Method for Forwarding Host From a Subscriber Optical Interface	A second patent on subscriber OLT physical configurations for efficiently removing host from a small budget OLT. Companion to the #10 patent. While the industry is not going this way now, this earlier teaches some interesting things that could be done with subscriber OLTs to improve network performance and possibly reduce budget.	Ronald L. Hodge, James O. Farmer	60244,040
6	7,028,851 Host network		08/09/2006	10/12/2001	Method And System For Supporting Multiple Services With a Subscriber Optical Interface	A way to remotely tune a laser located on the side of the house, and to coordinate tuning it with tuning a TV. Useful if certain network concepts become a commercial reality.	James O. Farmer, Stephen A. Thomas	60203,894
7	7,040,187 Life Code Migration		04/03/2009	13/08/2004	Countermeasures for Life Pattern SRS Distortion in Ethernet Passive Optical Network Systems	This is a key patent on how to overcome the effects of life code in EPON and GPON systems, without adding the specification. It is popularly known as life code mitigation. The efficacy of this technology has been demonstrated and is implemented in our standard OLT products. GPON may be bringing it now, and we have been told by a reliable source that EPON OLT chips have integrating technology built in.	James O. Farmer, Alan M. Brown, John J. Kenney, Stephen A. Thomas	60267,061 60269,166
8	7,040,301 Life Code Migration		04/03/2009	13/08/2004	Countermeasures for Life Pattern SRS Distortion in Ethernet Passive Optical Network Systems	This is a continuation of the #7 patent, with the same mission to reflect the equipment acquisition the industry has adopted since the original provisional patent was filed in 2004. The efficacy of this technology has been demonstrated and is implemented in our standard OLT products. GPON may be bringing it now, and we have been told by a reliable source that EPON OLT chips have integrating technology built in.	James O. Farmer, Alan M. Brown, John J. Kenney, Stephen A. Thomas	60267,061 60269,166
9	6,979,371 Lane architecture		06/12/2005	28/05/2001	SYSTEM AND METHOD FOR COMMUNICATING OPTICAL SIGNALS BETWEEN A DATA SERVICE PROVIDER AND SUBSCRIBERS	Communicating optical signals using an OLT that manages bandwidth according to any of a number of algorithms. Includes the RF analogy. Good description of a modern PON. Good defensive patent.	James O. Farmer, John J. Kenney, Patrick W. Quinn, Thomas A. Tigue, Paul F. Whittlesey, Emmanuel A. Valle	60237,894 60244,052 60258,837 60243,878 60238,112
10	7,009,355 Lane architecture		11/09/2007	05/07/2001	System and Method for Communicating Optical Signals Between a Data Service Provider and Subscribers	Early patent on PONs including RF analogy. Patent was recently abandoned due to existence of a broader patent (#822) and patent allowed but not issued, but there are some reasons as to why we may need to get it back, namely that it can be easier to defend a narrower patent than a broad patent. We can get it back until September 2011.	James O. Farmer, John J. Kenney, Patrick W. Quinn, Thomas A. Tigue, Paul F. Whittlesey, Emmanuel A. Valle	60237,894 60244,052 60258,837 60243,878 60238,112
11	7,009,356 Lane architecture		08/10/2009	05/07/2001	System and Method for Communicating Optical Signals Between a Data Service Provider and Subscribers	Second patent on lane physical layer architecture. May apply to any PON.	James O. Farmer, John J. Kenney, Patrick W. Quinn, Thomas A. Tigue, Paul F. Whittlesey, Emmanuel A. Valle	60237,894 60244,052 60258,837 60243,878 60238,112
12	7,009,357 Lane architecture		21/09/2011	05/07/2001	SYSTEM AND METHOD FOR COMMUNICATING OPTICAL SIGNALS BETWEEN A DATA SERVICE PROVIDER AND SUBSCRIBERS	Latest version, video content not required. NDA received, patent has not issued.	James O. Farmer, John J. Kenney, Patrick W. Quinn, Thomas A. Tigue, Paul F. Whittlesey, Emmanuel A. Valle	60237,894 60244,052 60258,837 60243,878 60238,112
13	7,174,856 MDU		15/09/2007	14/04/2001	System and Method for Communicating Optical Signals to Multiple Subscribers Having Various Bandwidth Demands Connected to the Same Optical Network	Network patent on MDU OLTs. Predecessor to the #789 patent.	Paul F. Whittlesey, Emmanuel A. Valle, James O. Farmer	60211,840
14	7,033,789 MDU		24/12/2009	14/04/2001	System and Method for Communicating Optical Signals to Multiple Subscribers Having Various Bandwidth Demands Connected to the Same Optical Network	Broad patent on MDU OLTs. Companion to the earlier #553 patent. These may be infringed by certain large operators using competitive equipment.	Paul F. Whittlesey, Emmanuel A. Valle, James O. Farmer	60211,840
15	7,011,795 Multiple Service Provider		08/02/2009	10/10/2002	METHOD AND SYSTEM FOR SUPPORTING MULTIPLE SERVICE PROVIDERS WITHIN A SINGLE OPTICAL NETWORK	Way to support more than one RF broadband service provider on the same PON.	John J. Kenney, James O. Farmer, Stephen A. Thomas, Kevin Bourg, James Anthony, Patrick W. Quinn, James O. Farmer, John J. Kenney, Thomas A. Tigue, Paul F. Whittlesey, Emmanuel A. Valle	60242,134 60258,837 60244,052
16	7,033,781 PON OLS		01/08/2006	20/10/2002	METHOD AND SYSTEM FOR PROCESSING UPSTREAM PACKETS OF AN OPTICAL NETWORK	Processing upstream packets in a TDMA protocol in a scalable manner by considering an aggregation of packets rather than individual packets. Probably applies to modern PONs.	Stephen A. Thomas, Kevin Bourg, James Anthony, Patrick W. Quinn, James O. Farmer, John J. Kenney, Thomas A. Tigue, Paul F. Whittlesey, Emmanuel A. Valle	60258,837 60244,052
17	7,187,244 PON OLS		27/03/2007	20/10/2002	METHOD AND SYSTEM FOR PROCESSING DOWNSTREAM PACKETS OF AN OPTICAL NETWORK	Downstream CoS method in a PON. Predecessor to modern CoS technology.	Stephen A. Thomas, Kevin Bourg, James Anthony, Patrick W. Quinn, James O. Farmer, John J. Kenney, Thomas A. Tigue, Paul F. Whittlesey, Emmanuel A. Valle	60258,837 60244,052
18	7,058,287 Reflection suppression		06/01/2006	15/09/2002	Reflection Suppression for an Optical Fiber	Reflection suppression for an optical fiber by wrapping an uncoated fiber and around a retaining member. Could be applied to numerous existing fiber management products.	Ronald L. Hodge, John J. Kenney	602418,271
19	7,058,031 Reflection suppression		11/01/2006	15/09/2002	Reflection Suppression for an Optical Fiber	A second patent on fiber coating for uncoated fiber by wrapping it around a special mandrel. Broader than #18 patent. Could be useful to existing existing fiber management products.	Ronald L. Hodge, John J. Kenney	602418,271

Index #	Patent #	Art Area	Issue Date	Priority Date	Title	Summary and Values	Inventors	Provisional
20	7,184,864 RF Patent		3/29/2007	08/24/2004	Method and System for providing a return path for signals generated by legacy terminals in an optical network	Covers basic work on RF return and forms the basis for contributions. The spec breaks the digitization of the RF signal, and also includes analog return of the digital signal, as is practiced in RFOG. Some of the methods of transmitting the data in interleaved time slots with no timing were an attempt to define a universal RF return solution, which didn't get implemented due to timing restrictions in the SCITE SS-1 system, and because better ways became apparent later.	James C. Farmer, John J. Kenny, Patrick W. Cohen, Dennis J. Anthony	60709,464
21	7,180,801 RF Patent		12/01/2007	04/12/2003	Method and System for Providing a Return Path for Signals Generated by Legacy Terminals in an Optical Network	Revised RF Return patent, applying directly to the SCITE SS-1 system. The spec is different from that of the 484 patent. The patent (not the spec) only applies to the SCITE SS-1 system because the Examiner felt there were multiple inventions, and thus required bifurcation of the patent. Thus, the claims pertain only to the SCITE SS-1 system.	James C. Farmer, Dennis J. Anthony, Stephen A. Thomas, Patrick W. Cohen	60704,391
22	7,464,541 RF Patent		08/14/2008	10/03/2003	Method and System for Providing a Return Path for Signals Generated by Legacy Terminals in an Optical Network	This is a continuation of RF return specifically for the SCITE SS-1 modified. This is broader than the 401 patent. It does not require fiber optic cable, which may make bifurcation occur only when the customer includes the system.	James C. Farmer, Dennis J. Anthony, Stephen A. Thomas, Patrick W. Cohen	60704,361
23	7,023,897 RF Patent		07/26/2008	08/01/2002	Optical Network System and Method for Supporting Downstream Signals Propagated According to a Cable Modem Protocol	Covers RF return from customer modems, as well as other upstream signals in the control of set tops. Claim 18 covers the technique we have been working with a CATV vendor to get implemented on a CATS. Claim 1 describes a different technique, which would be easier for the CATS vendor to implement, but would cause some hardware design work on our end.	James C. Farmer, Stephen A. Thomas, Patrick W. Cohen	60702,133
24	7,392,839 RF Patent		22/06/2008	03/06/2003	Method and System for Providing a Return Path for Signals Generated by Legacy Terminals in an Optical Network	This is a continuation of the 484 patent, with some final changes on implementation of the upstream signal. Covers an analog upstream path from the CMT, and is applicable to RFOG and a number of pre-RFOG products on the market, as well as upstream-only modems made for CMTs and possibly others.	James C. Farmer, John J. Kenny, Patrick W. Cohen, Dennis J. Anthony	60709,464
25	7,677,014 RF Patent		20/01/2011	05/07/2003	Method and System for Providing a Return Path for Signals Generated by Legacy Video Service Terminals in an Optical Network	Covers transmitting the RF return signals back to the headend and then demodulating them before sending the data to the set top controller.	James C. Farmer, Stephen A. Thomas, Patrick W. Cohen, Dennis J. Anthony	60707,867
26	7,096,480 RF Patent		12/06/11	10/01/2002	Method and system for providing a return path for signals generated by legacy terminals in an optical network	Very broad patent applying in the SCITE SS-1 system. This is probably the best patent for digital RFOG at the manufacturing level, as it describes only the CMT. It probably describes what Motorola themselves are doing, though we're creating a lot of buzz about Motorola's RF return technology.	James C. Farmer, Stephen A. Thomas, Patrick W. Cohen, Dennis J. Anthony	60704,391
27	6,711,337 Optical Encoder		20/03/2004	2/09/2004	Cable Signal Encoders and Components	First patent on a signal encoder we used to build. This covers the input and output ports and the core.	Ronald L. Hodge, Paul E. Bebeau, James C. Farmer	60701,853
28	6,894,583 Optical Encoder		27/09/2004	21/06/2001	Cable Signal Encoders	EP from 137 patent is just color claims. Cable signal encoders and components (e.g., for set-top boxes). Large number of narrow multiple subclaims, with various blocks and cable signal return.	Ronald L. Hodge, Paul E. Bebeau, James C. Farmer	60701,853
29	7,134,641 WDM PON		07/06/2008	04/18/2008	SYSTEM AND METHOD FOR COMMUNICATING OPTICAL SIGNALS UPSTREAM AND DOWNSTREAM BETWEEN A DATA SERVICE PROVIDER AND SUBSCRIBERS	Communicating optical signals between a data service provider and subscribers using wavelength division techniques (WDM PON). This was the original WDM plan, but at that time (CA Jan 2008) the components needed were not available. However, due to the rise into the very popular WDM PONs today, and as well as the current WDM PONs catch on commercially, we have submitted a date of invention for us.	James C. Farmer, Paul F. Whitley, Patrick W. Cohen, John J. Kenny, Emmanuel A. Vella, Thomas A. Tipton	60709,464
30	7,038,442 WDM PON		10/10/2008	04/18/2008	System and Method for Communicating Optical Signals Upstream and Downstream Between a Data Service Provider and Subscribers	Describes what people are talking about doing with WDM PONs. Broadening of the 341 patent. WDM becomes important WDM PONs get into the market.	James C. Farmer, Paul F. Whitley, Patrick W. Cohen, John J. Kenny, Emmanuel A. Vella, Thomas A. Tipton	60709,464