PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4314729

SUBMISSION TYPE:	NEW ASSIGNMENT	
NATURE OF CONVEYANCE:	ASSIGNMENT	

CONVEYING PARTY DATA

Name	Execution Date
SHANE AMANTE	11/25/2013
KEVIN CHRISTOPHER JOHNS	11/25/2013

RECEIVING PARTY DATA

Name:	LEVEL 3 COMMUNICATIONS, LLC
Street Address:	1025 ELDORADO BLVD.
City:	BROOMFIELD
State/Country:	COLORADO
Postal Code:	80021

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15456424

CORRESPONDENCE DATA

Fax Number: (720)888-5619

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent

using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Email: kathleen.mcinnish@level3.com JONATHAN C. SIEKMANN **Correspondent Name:** Address Line 1: 1025 ELDORADO BLVD.

Address Line 4: BROOMFIELD, COLORADO 80021

ATTORNEY DOCKET NUMBER:	0419-US-I1-D1
NAME OF SUBMITTER:	JONATHAN C. SIEKMANN
SIGNATURE: /Jonathan C. Siekmann/	
DATE SIGNED:	03/11/2017

Total Attachments: 7

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ASSIGNMENT

PARTIES TO THE ASSIGNMENT:

Assignor/Inventor:

Name of Assignor: Shane Amante City and State of Residence: Denver, CO

Assignee:

Level 3 Communications, LLC 1025 Eldorado Boulevard Broomfield, Colorado 80021

PATENT APPLICATION SUBJECT TO THE ASSIGNMENT (the "Application"):

Patent Application No.: 14/095,495

Filing Date: December 3, 2013

Title: DYNAMICALLY OPTIMIZING CONTENT DELIVERY USING MANIFEST CHUNKING
Attorney Docket No. 0419-US-I1

WHEREAS, the Assignor identified above has invented certain new and useful inventions for which the patent application for Letters Patent identified above has been prepared for filing with the United States Patent and Trademark Office.

NOW THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is acknowledged, Assignor has agreed to assign and transfer and does hereby assign and transfer unto the Assignee identified above, its successors and assigns, the entire right, title, and interest in and to said invention and the Application, including any provisional or non-provisional application to which said Application claims priority, including but not limited to U.S. patent application no. 13/828,251, and in and to any United States of America and foreign applications that claims priority to the Application, any divisional or continuation (in whole or in part) of said Application, and in and to any and all improvements in said invention made by Assignor (provided any such improvement is made during, or within one year after the termination, of the employment by said Company of Assignor), and in and to any and all Letters Patent, reexaminations, reissues, or extensions thereof, of the United States of America and countries foreign thereto including the right to apply for Letters Patent, Utility Models, or Inventors' Certificates in the United States of America and all foreign countries in its own name and any priority rights for such United States of America and foreign applications to which such applications or the Assignor are entitled under international conventions, treaties, or otherwise

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which have been or may be granted thereon or on any divisional, continuation (in whole or in part), renewal, reexamination, reissue, or other or further application based in whole or in part upon said invention or improvements thereon, to be held and enjoyed as fully and exclusively as they would have been by me had this assignment and transfer not been made;

Assignor further agrees for Assignor and for Assignor's heirs, executors, and administrators, to execute and deliver without further consideration any further applications, assignments, and documents, and to perform such other acts as Assignor lawfully may, that may be deemed necessary by said Assignee, its successors, assigns, and nominees, fully to secure its right, title, and interest as aforesaid to obtain to maintain Letters Patent, Utility Models, or Inventors' Certificates in any and all countries;

Assignor hereby authorizes Assignee, its successors and assigns, or anyone it may properly designate, to insert in this instrument the title, application number and filing date of the Application once known;

Assignor hereby acknowledges that Assignee's internal and external counsel have represented only Assignee and will continue to represent only Assignee with respect to this invention;

Assignor hereby acknowledges an obligation of assignment and transfer of this invention to Assignee at the time the invention was made; and

Assignor hereby authorizes and requests the Commissioner of Patents to issue any and all Letters Patent which may be granted upon any of said applications, to said Assignee, as the assignee of the entire right, title, and interest therein.

Assignor and Assignee hereby agree that this assignment is governed by the laws of the state of Colorado of the United States of America and subject to the non-exclusive jurisdiction of the courts of the state of Colorado of the United States of America.

IN WITNESS WHER date indicated below.	By: By: By:
	Shane Amante
	Dated: 11/25/2013
STATE OF COCRADO CITY OF)
CITY OF) ss.
COUNTY OF DENVER)
Amante, known to me to be	Public in and for said County and State, personally appeared Shane the person whose name is subscribed to the foregoing instrument, the executed the same for the purposes and considerations therein
Given under my hand	and seal of office this 25th day of November, 2013.
SEAL	Krutine M. boodman
•	Nothry Public My Commission Expires: 4-13-205
KRISTINE M. GOODMAN NOTARY PUBLIC STATE OF COLORADO NOTARY ID 20024040866- MY COMMISSION EXPIRES APRIL 13,	

ASSIGNMENT

PARTIES TO THE ASSIGNMENT:

Assignor/Inventor:

Name of Assignor: Kevin Christopher Johns City and State of Residence: Erie, CO

Assignee:

Level 3 Communications, LLC 1025 Eldorado Boulevard Broomfield, Colorado 80021

PATENT APPLICATION SUBJECT TO THE ASSIGNMENT (the "Application"):

Patent	Appl	ication l	Vo.:		14/095,495
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Filing Date: December 3, 2013

Title: DYNAMICALLY OPTIMIZING CONTENT DELIVERY USING

MANIFEST CHUNKING Attorney Docket No. 0419-US-II

WHEREAS, the Assignor identified above has invented certain new and useful inventions for which the patent application for Letters Patent identified above has been prepared for filing with the United States Patent and Trademark Office.

NOW THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is acknowledged, Assignor has agreed to assign and transfer and does hereby assign and transfer unto the Assignee identified above, its successors and assigns, the entire right, title, and interest in and to said invention and the Application, including any provisional or non-provisional application to which said Application claims priority, including but not limited to U.S. patent application no. 13/828,251, and in and to any United States of America and foreign applications that claims priority to the Application, any divisional or continuation (in whole or in part) of said Application, and in and to any and all improvements in said invention made by Assignor (provided any such improvement is made during, or within one year after the termination, of the employment by said Company of Assignor), and in and to any and all Letters Patent, reexaminations, reissues, or extensions thereof, of the United States of America and countries foreign thereto including the right to apply for Letters Patent, Utility Models, or Inventors' Certificates in the United States of America and all foreign countries in its own name and any priority rights for such United States of America and foreign applications to which such applications or the Assignor are entitled under international conventions, treatics, or otherwise

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which have been or may be granted thereon or on any divisional, continuation (in whole or in part), renewal, reexamination, reissue, or other or further application based in whole or in part upon said invention or improvements thereon, to be held and enjoyed as fully and exclusively as they would have been by me had this assignment and transfer not been made;

Assignor further agrees for Assignor and for Assignor's heirs, executors, and administrators, to execute and deliver without further consideration any further applications, assignments, and documents, and to perform such other acts as Assignor lawfully may, that may be deemed necessary by said Assignee, its successors, assigns, and nominees, fully to secure its right, title, and interest as aforesaid to obtain to maintain Letters Patent, Utility Models, or Inventors' Certificates in any and all countries;

Assignor hereby authorizes Assignee, its successors and assigns, or anyone it may properly designate, to insert in this instrument the title, application number and filing date of the Application once known;

Assignor hereby acknowledges that Assignee's internal and external counsel have represented only Assignee and will continue to represent only Assignee with respect to this invention:

Assignor hereby acknowledges an obligation of assignment and transfer of this invention to Assignee at the time the invention was made; and

Assignor hereby authorizes and requests the Commissioner of Patents to issue any and all Letters Patent which may be granted upon any of said applications, to said Assignee, as the assignee of the entire right, title, and interest therein.

Assignor and Assignee hereby agree that this assignment is governed by the laws of the state of Colorado of the United States of America and subject to the non-exclusive jurisdiction of the courts of the state of Colorado of the United States of America.

IN WITNESS WHEREOF, the Assignor hereunto has executed this Assignment upon the date indicated below.

By: Kevin Christopher Johns

STATE OF COUNTY OF SEAM (SEE) ss.

Before me, a Notary Public in and for said County and State, personally appeared Kevin Christopher Johns, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and considerations therein expressed.

Given under my hand and seal of office this 35 day of 1000 day of 2013.

JENNIFER LOMELI NOTARY PUBLIC STATE OF COLORADO NOTARY ID 20054044452

My Commission Expires:

IN WITNESS WHEREOF the Assigne	e hereunto has executed this Assignment upon the
date indicated below.	o nordano nas executaciónis Assignment aponeme
	By:
	David Wier duly authorised for and on behalf of
	Level 3 Communications, LLC
	Dated:
STATE OF (1) (1)	A Company of the Comp
STATE OF LOVELD) ss.	
COUNTY OF CANONICAL D	

Before me, a Notary Public in and for said County and State, personally appeared David Wier, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and considerations therein expressed.

Given under my hand and seal of office this day of Qarage, 2013.

JENNIFER LOMELI
NOTARY EMBLIC
STATE OF COLORADO
NOTARY ID 20054044452
MY COMMISSION EXPIRES 11/16/2017

Notary Public

My Commission Expires: 1/1/1/13