### PATENT ASSIGNMENT COVER SHEET

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SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
GENUITY, INC.	02/04/2003

#### **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:	15149394

#### **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
Correspondent Name: JONATHAN C. SIEKMANN
Address Line 1: 1025 ELDORADO BLVD.

Address Line 4: BROOMFIELD, COLORADO 80021

ATTORNEY DOCKET NUMBER:	31-US-C2
NAME OF SUBMITTER:	JONATHAN C. SIEKMANN
SIGNATURE:	/Jonathan C. Siekmann/
DATE SIGNED:	05/17/2016

### **Total Attachments: 10**

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### ASSIGNMENT OF PATENTS

This ASSIGNMENT OF PATENTS is effective as of February 4, 2003, between Genuity Inc., a Delaware corporation, Genuity International Inc., a Massachusetts corporation, Genuity International Networks Inc., a California corporation, Genuity Solutions Inc., a Massachusetts corporation, Genuity Telecom Inc., a Delaware corporation, and Genuity Employee Holdings LLC, a Delaware limited liability company, each having a principal business address of 225 Presidential Way, Woburn, Massachusetts 01888 (hereinafter, collectively, "ASSIGNORS"), and Level 3 Communications, LLC, a Delaware limited liability company having a principal business address of 1025 Eldorado Boulevard, Broomfield, Colorado 80021 (hereinafter "ASSIGNEE").

WHEREAS, one or more of the ASSIGNORS has an ownership interest in certain inventions, applications for United States and foreign Letters Patent, and United States and foreign Letters Patents; and

WHEREAS, ASSIGNEE is desirous of acquiring ownership of the aforesaid inventions, applications for United States and foreign Letters Patent, and United States and foreign Letters Patents.

NOW, THEREFORE, in consideration of the promises and the mutual covenants set forth in the Asset Purchase Agreement between ASSIGNORS and ASSIGNEE and certain other parties thereto, dated as of November 27, 2002, as amended, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, and subject to any rights and licenses granted to third parties on or before the effective date hereof, ASSIGNORS do hereby assign unto ASSIGNEE all rights, title and interest of ASSIGNORS in the following:

(i) All inventions (patented or not patented) (provided, however, ASSIGNORS' right to assign any equitable rights in such inventions may be limited with respect to any not-patented inventions as to which the ASSIGNORS have-not received an intellectual property agreement executed by an inventor thereof for the benefit of any ASSIGNOR), applications for Letters Patent, and Letters Patents, in each case owned solely by one of the ASSIGNORS or owned jointly by two or more of the ASSIGNORS, including all inventions and improvements described in the applications for Letters

Patent, any legal equivalent of Letters Patent in all foreign countries (subject, however, to applicable patent laws in such countries), the right to claim priority therefrom, and all Letters Patents worldwide to be obtained by such patent applications or any continuations, divisions, renewals, extensions, substitutes, reissues or re-examinations thereof (all referred to herein as "PATENTS"), and

(ii) All PATENTS in the list of United States Applications for Letters Patent in Schedule A and the list of foreign applications for Letters Patent in Schedule B,

all of the foregoing to be held and enjoyed by ASSIGNEE, its successors and assigns, to the full end of the terms for which such Letters Patents are granted, plus any extensions, as fully and entirely as the same would have been held and enjoyed by ASSIGNORS had this assignment and sale not been made, together with all of ASSIGNORS' claims for damages by reason of past and future infringement of said Letters Patents and inventions, with the right to sue for, and collect the same for its own use and enjoyment, and for the use and enjoyment of its successors, assigns or other legal representatives.

ASSIGNORS further agree, at the request of the ASSIGNEE and without charge or cost to ASSIGNORS, to execute and have executed any and all other documents of any kind whatsoever, and to provide any information that is in ASSIGNORS' possession or under their control, in each case as may be reasonably required to carry out the terms and intent of this Assignment; and to fully cooperate with ASSIGNEE, as reasonably required, to enable ASSIGNEE to duly record this instrument of Assignment with the United States Patent and Trademark Office and with applicable foreign government offices so that ASSIGNEE's ownership of the Letters Patents and applications for Letters Patent is duly made of record in the United States and applicable foreign countries.

ASSIGNORS authorize and request the Commissioner of Patents and Trademarks to issue any and all United States Letters Patent resulting from the inventions and Applications for United States Letters Patent listed in Schedule A or any divisionals, reissues, continuations (in whole or in part), renewals, extensions, substitutes or re-examinations thereof to ASSIGNEE.

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ASSIGNEE hereby accepts this ASSIGNMENT OF PATENTS from ASSIGNORS to ASSIGNEE of all rights of ASSIGNORS in the aforesaid PATENTS worldwide.

GENUITY INC.		•	
By: NO Bu	Date:	2/4/03	_
Title:			
COMMONWEALTH OF MASSACHUSETTS )			
) ss. COUNTY OF MIDDLESEX )			
On this 44 of February, 200 me known and known to me to be the person descriand he duly acknowledged to me that he executed to	bed in and	who executed the foregoin	g instrument,
[SEAL] Notary	Public	2 Grimm	
GENUITY INTERNATIONAL INC.			
By: TO Bue	Date:	2/4/03	-
Title:			
COMMONWEALTH OF MASSACHUSETTS )			
) ss. COUNTY OF MIDDLESEX )			
On this 44 of February, 200, to me known and known to me to be the person descand he duly acknowledged to me that he executed the	cribed in an	id who executed the forego	ing instrument
[SEAL]	Public	Demmi Lumm	
Notary	I HOHC		

IN WITNESS WHEREOF, the parties hereto have signed and sealed this Agreement as of the date first written above.

GENUITY INTERNATIONAL NETWORKS INC	,
By:	Date: 2/4/03
Title:	
COMMONWEALTH OF MASSACHUSETTS)	
) ss. COUNTY OF MIDDLESEX )	
On this $\mathcal{L}^{\underline{\mathcal{H}}}$ of February, 200	3, before me personally appeared Daniel P. O'Brien cribed in and who executed the foregoing instrument, he same for the uses and purposes therein set forth.
[SEAL] Notary	Public Premm
GENUITY SOLUTIONS INC.	
By: DPOYBum	Date: 2/4/03
Title:	
COMMONWEALTH OF MASSACHUSETTS )	
) ss. COUNTY OF MIDDLESEX )	
On this <u>44</u> of February, 2003 o me known and known to me to be the person descend he duly acknowledged to me that he executed the	B, before me personally appeared Daniel P. O"Brien cribed in and who executed the foregoing instrument, he same for the uses and purposes therein set forth.
SEAL] Notary	De Grimm Public

GENUITY TELECOM INC.		
By:	Date:	2/4/03
Title:		
COMMONWEALTH OF MASSACHUSETTS)		
) ss. COUNTY OF MIDDLESEX )		
On this $4\frac{7}{2}$ of February, 200 to me known and known to me to be the person des and he duly acknowledged to me that he executed the	cribed in a	me personally appeared Daniel P. O'Brien and who executed the foregoing instrument, or the uses and purposes therein set forth.
[SEAL] Notary	Public	2 Gunn
GENUITY EMPLOYEE HOLDINGS LLC		
By: DOC Sun	Date:	2/4/03
Title:		
COMMONWEALTH OF MASSACHUSETTS )		
) ss. COUNTY OF MIDDLESEX )		
On this 44 of February, 2003 of me known and known to me to be the person descand he duly acknowledged to me that he executed the	ribed in a	
[SEAL] Notary		O. Gremn

LEVEL 3 COMMUNICATIONS ELC	
By:	
Title: Vice President	
STATE OF)	
STATE OF $\mathcal{N}_{\mathcal{Y}}$ ) ss. COUNTY OF $\mathcal{N}_{\mathcal{Y}}$	
On this Of February, 2003 before me personally appeared to me known and known to me to be the person described and who executed the foregoing instrument, and he duly acknowledged to me that he executed same for the uses and purposes therein set forth.	in the
[SEAL]  FRANCIS J. KELLEHER  Oldary Public, State of New York No. 01 KE607946?  Quality Prints Ave. 20, 2004	

# SCHEDULE A United States Applications for Letters Patent

Serial No.	Title
08/990,096	SECURE NETWORK ARCHITECTURE WITH QUALITY SERVICE
09/362,781	NETWORK ARCHITECTURE WITH EVENT LOGGING
09/531,882	SYSTEM AND METHOD FOR ANALYZING NETWORK TRAFFIC
09/602,665	METHODS AND SYSTEMS FOR MANAGING CHANGE IN THE INFRASTRUCTURE OF A NETWORK
09/814,454	GLOBAL NETWORK INFRASTRUCTURE
09/826,697	QOS TESTING OF A HARDWARE DEVICE OR A SOFTWARE CLIENT
09/827,352	ALTERNATE ROUTING OF VOICE COMMUNICATION IN A PACKET-BASED NETWORK
09/842,533	VERIFIABLE VOTING
09/843,787	METHOD FOR SCREENING INBOUND CALLS IN DISTRUBUTED H.323 PACKET BASED NETWORKS
09/855,103	SERVICE LEVEL AGREEMENTS (SLA'S) BASED ON OBJECTIVE VOICE QUALITY TESTING FOR VOICE OVER IP (VOIP) NETWORKS
09/855,156	EMBEDDING SAMPLE VOICE FILES IN VOICE OVER IP (VOIP) GATEWAYS FOR VOICE QUALITY MEASUREMENTS
09/870,228	ISDN DISCONNECT ALARM GENERATION TOOL FOR USE IN VOICE OVER IP (VOIP) NETWORKS
09/878,572	VOICE OVER INTERNET PROTOCOL REAL TIME PROTOCOL ROUTING
09/894,408	DSL SPLITTER
09/928,073	PROVIDING VOICE OVER INTERNET PROTOCOL NETWORKS
09/941,170	HIGH CAPACITY BACKBONE
09/969,437	AUTOMATED SERVER REPLICATION

Serial No.	Title
09/978,768	DISTRIBUTION OF TRAFFIC ACROSS A COMPUTER NETWORK
09/982,721	CONTENT REQUEST ROUTING AND LOAD BALANCING FOR CONTENT DISTRIBUTION NETWORKS
10/024,408	NETWORK PATHS
10/038,837	VOICE OVER INTERNET PROTOCOL (VOIP) NETWORK PERFORMANCE MONITOR

# Schedule B Applications for Foreign Letters Patent

Application No. or Reference No.	Title
PCT US01/08976	System and Method for Analyzing Network Traffic
PCT US01/09499	Global Network Infrastructure Provisioning Process
PCT US02/15225	Service Level Agreements (SLA's) Based on Objective Voice Quality Testing for Voice Over IP (VOIP) Networks
PCT Filed 26 December 2002	Voice Over Internet Protocol (VOIP) Network Performance Monitor
PCT US02/11076	Alternate Routing of Voice Communication in a Packet-Based Network
PCT US02/40296	Network Paths

PATENT REEL: 038616 FRAME: 0432

**RECORDED: 05/17/2016**