

PATENT ASSIGNMENT

Electronic Version v1.1
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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: 2	
Property Type	Number
Application Number:	13765582
Patent Number:	8374167
CORRESPONDENCE DATA	
Fax Number:	7208885619
<i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i>	
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:	22USC1/C2
NAME OF SUBMITTER:	Jonathan C. Siekmann
<p>Total Attachments: 38</p> <p>source=40_2003.02.04_ASSIGNMENT - Genuity to Level 3 LLC#page1.tif</p> <p>source=40_2003.02.04_ASSIGNMENT - Genuity to Level 3 LLC#page2.tif</p> <p>source=40_2003.02.04_ASSIGNMENT - Genuity to Level 3 LLC#page3.tif</p> <p>source=40_2003.02.04_ASSIGNMENT - Genuity to Level 3 LLC#page4.tif</p>	

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ASSIGNMENT OF JOINT-INTEREST IN PATENTS

This ASSIGNMENT OF JOINT-INTEREST IN 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 a joint ownership interest with another party other than an ASSIGNOR 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 ASSIGNORS' joint ownership interest in 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 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 jointly owned by ASSIGNORS with another party other than an ASSIGNOR, 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, divisionals, renewals, extensions, substitutes, reissues or re-examinations thereof (all referred to herein as "JOINT PATENTS"), and

(ii) An undivided joint interest in the whole of JOINT 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, that 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 as assignee of ASSIGNORS' interest therein.

ASSIGNEE hereby accepts this ASSIGNMENT OF JOINT PATENTS from
ASSIGNORS to ASSIGNEE of all the joint-ownership interest rights of ASSIGNORS in the
JOINT PATENTS worldwide.

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

GENUITY INC.

By: DPO'Brien Date: 2/4/03

Title: _____

COMMONWEALTH OF MASSACHUSETTS)

) ss.

COUNTY OF MIDDLESEX)

On this 4th of February, 2003, before me personally appeared Daniel O'Brien to me known and known to me to be the person described in and who executed the foregoing instrument, and he duly acknowledged to me that he executed the same for the uses and purposes therein set forth.

[SEAL]

D. P. Gemin
Notary Public

GENUITY INTERNATIONAL INC.

By: DPO'Brien Date: 2/4/03

Title: _____

COMMONWEALTH OF MASSACHUSETTS)

) ss.

COUNTY OF MIDDLESEX)

On this 4th of February, 2003, before me personally appeared Daniel P. O'Brien to me known and known to me to be the person described in and who executed the foregoing instrument, and he duly acknowledged to me that he executed the same for the uses and purposes therein set forth.

[SEAL]

D. P. Gemin
Notary Public

GENUITY INTERNATIONAL NETWORKS INC.

By: DPO'Brien Date: 2/4/03

Title: _____

COMMONWEALTH OF MASSACHUSETTS)

) ss.

COUNTY OF MIDDLESEX)

On this 4th of February, 2003, before me personally appeared Daniel P. O'Brien to me known and known to me to be the person described in and who executed the foregoing instrument, and he duly acknowledged to me that he executed the same for the uses and purposes therein set forth.

[SEAL]

D.P. Gurnin
Notary Public

GENUITY SOLUTIONS INC.

By: DPO'Brien Date: 2/4/03

Title: _____

COMMONWEALTH OF MASSACHUSETTS)

) ss.

COUNTY OF MIDDLESEX)

On this 4th of February, 2003, before me personally appeared Daniel P. O'Brien to me known and known to me to be the person described in and who executed the foregoing instrument, and he duly acknowledged to me that he executed the same for the uses and purposes therein set forth.

[SEAL]

D.P. Gurnin
Notary Public

GENUITY TELECOM INC.

By: DPO'Brien Date: 2/4/03

Title: _____

COMMONWEALTH OF MASSACHUSETTS)

) ss.

COUNTY OF MIDDLESEX)

On this 4th of February, 2003, before me personally appeared Daniel P. O'Brien to me known and known to me to be the person described in and who executed the foregoing instrument, and he duly acknowledged to me that he executed the same for the uses and purposes therein set forth.

[SEAL]

Daniel P. Gumin
Notary Public

GENUITY EMPLOYEE HOLDINGS LLC

By: DPO'Brien Date: 2/4/03

Title: _____

COMMONWEALTH OF MASSACHUSETTS)

) ss.

COUNTY OF MIDDLESEX)

On this 4th of February, 2003, before me personally appeared Daniel P. O'Brien to me known and known to me to be the person described in and who executed the foregoing instrument, and he duly acknowledged to me that he executed the same for the uses and purposes therein set forth.

[SEAL]

Daniel P. Gumin
Notary Public

LEVEL 3 COMMUNICATIONS, LLC

By: [Signature]

Date: 02/04/03

Title: _____

Robert M. Yates
Vice President

STATE OF NY)

COUNTY OF NY) ss.

On this 4th of February, 2003 before me personally appeared
Robert M. Yates to me known and known to me to be the person described in
and who executed the foregoing instrument, and he duly acknowledged to me that he executed
the same for the uses and purposes therein set forth.

[SEAL]

FRANCIS J. KELLEHER
Notary Public, State of New York
No. 01KE6079463
Qualified in New York County
Commission Expires Aug. 26, 2006

[Signature] Notary Public

SCHEDULE A

<u>Serial No.</u>	<u>Title</u>
08/796,156	System for Interconnecting Packet Switched and Circuit Switched Voice Communications
07/288,779	Distributed Security Procedure for Intelligent Networks
07/505,779	Computer Resource Managing System
07/695,311	Scheduling
07/808,913	Embedded Signalling
08/656,546	Data Packet Router
08/701,116	Apparatus for Adjusting Phase of Data Signals
08/710,101	Centralized Computer Event Data Logging System
08/800,907	System for Transmitting Network-Related Information Where Requested Network Information is Separately Transmitted as Definitions and Display Information
08/820,869	Systems and Methods for Internet Working Data Networks Having Mobility Management Functions
08/838,914	System and Method for Genetic Algorithm Scheduling Systems
08/853,862	Multi-Tenant Unit
08/928,712	Data Packet Router
08/928,712	Data Packet Router
08/940,666	Virtual Circuit Management for Multi-Point Delivery in a Network System
08/940,668	Quality of Service Management for Aggregated Flows in a Network System
08/965,848	Method and Apparatus for Balancing the Process Load on Network Servers According to Network and Serve Based Policies

<u>Serial No.</u>	<u>Title</u>
08/971,606	Voice Activated Web Browser
08/990,122	Networked-Collaborative Musical Environment
09/026,269	Multiplexing Bytes Over Parallel Communication Links Using Data Slices
09/028,821	Systems and Methods for Providing User Assistance in Retrieving Data From a Relational Database
09/058,786	Evaluating Generic Programming Parse-Trees
09/086,386	Method and Apparatus for Digital Subscriber Loop Qualification
09/092,605	Method and System for Monitoring Broadband Quality of Services
09/094,453	Multiplex/Demultiplex Processing of Information
09/098,622	Method and System for Connectionless Communication in a Cell Relay Satellite Network
09/105,905	Method and System for Burst Congestion Control in an ATM Network
09/124,196	Method and Apparatus for Estimating Source-Destination Traffic in a Packet-Switched Communications Network
09/127,685	An Improved Information Retrieval System
09/141,941	Method and System for Burst Congestion Control in an Internet Protocol Network
09/150,106	Method and System for Testing a Network Element within a Telecommunications Network
09/170,275	System and Method for Scheduling the Transmission of Packet Objects Having Quality of Service Requirements
09/170,609	System and Method for Scheduling and Rescheduling the Transmission of Cell Objects of Different Traffic Types
09/176,420	Method and Apparatus for Stripping Packets Over Parallel Communication Lines
09/177,700	Multi-Line Appearance Telephony Via a Computer Network

<u>Serial No.</u>	<u>Title</u>
09/177,712	Multi-Line Telephony Via Network Gateways
09/178,271	Speaker Identifier for Multi-Party Conference
09/187,976	Apparatus and Method for Hyperlinking Printed Materials with Electronic Information Via a Network
09/209,152	System and Method for Automatically Optimizing Software Performance
09/211,705	MPEG Compliant Centralized Interactive Programming Distribution System and Method Therefor
09/211,707	MPEG Compliant Centralized Randomly Accessed Audio Segment Distribution System and Method Therefor
09/220,511	Framework for Providing Quality of Service Requirements in a Distributed Object Oriented Computer System
09/220,530	Framework for Providing Quality of Service Requirements in a Distributed Object-Oriented Computer System
09/220,613	Cell Discard Scheme for IP Traffic Over a Cell Relay Infrastructure
09/220,716	Framework for Providing Quality of Service Requirements in a Distributed Object Oriented Computer System
09/232,069	Method and System for Burst Congestion Control in an ATM Network
09/245,776	Method and Apparatus for Providing Web-Based Assistance to Customers and Service Representatives
09/250,090	All-To-All Communication Scheme for Multistage Interconnection Networks
09/251,676	A Generic Approach to Generating Permutations for All-To-All Personalized Exchange for Self-Routing Multistage Interconnection Networks
09/261,971	Data Communications System and Hybrid Time-Code Multiplexing Method
09/270,222	Providing Secure Service Execution Facilities
09/275,636	Method and System for Monitoring and Dynamically Reporting a Status of a Remote Server

<u>Serial No.</u>	<u>Title</u>
09/277,993	Memory Accessing Switch Network
09/282,764	Targeted Banner Advertisements
09/285,992	Networked System for Management of Remote Processors and Controllers
09/300,922	Fact Recognition System
09/305,411	Single Entry Point to Cross Domain Information that is Returned Directly to the User
09/330,427	Broadband Architecture Using Existing Twisted Pair
09/348,377	Method and Apparatus for an Intruder Detection Reporting and Response System
09/362,081	Techniques for Providing Caller Name Announcement
09/362,324	Techniques for Processing Communications
09/364,782	Page Aggregation for Web Sites
09/383,056	System and Method for Processing and Collecting Data from a Call Directed to a Call Center
09/400,004	Optimal All-To-All Personalized Exchange in Optical Multistage Networks
09/404,098	Distributed, Hybrid Simulation System
09/406,672	Secure Play of Performance Data
09/408,959	Two-Mode Operational Scheme for Managing Service Availability of a Network Gateway
09/410,152	Bank Online Payment Service
09/421,714	System and Method for Automatically Optimizing Heterogeneous Multiprocessor Software Performance
09/422,306	Systems and Methods for Two-Way Messaging Using a Pager
09/422,540	Internet Service Delivery Via Server Pushed Personalized Advertising Dashboard

<u>Serial No.</u>	<u>Title</u>
09/426,052	Systems and Methods for Securing Extranet Transactions
09/426,442	Systems and Methods for Securing Extranet Transactions
09/428,894	Systems and Methods for Providing Chat Room Participants with Private and Anonymous Voice Communication
09/430,883	Self-Certifying References for Internet Documents
09/431,292	Hypervideo Information Retrieval Using Multimedia
09/431,293	Hypervideo: Information Retrieval Using Realtime Buffers
09/432,618	System and Method for Logging Computer Event Data in a Distributed System
09/434,642	System and Method for Analyzing Genetic Algorithms
09/438,914	Systems and Methods for Transporting Associated Data Signals over a Network
09/441,812	Method and System for Capturing Telephone Calls
09/448,794	Methods and System for Performing Frame Recovery in a Network
09/450,549	Packet Loss Service-Level Guarantee Monitoring and Claim Validation Systems and Methods
09/450,601	Connectivity Service-Level Guarantee Monitoring and Claim Validation Systems and Methods
09/452,915	Multiservice Network
09/460,455	Methods and Apparatus for Integrating Services and Accessing the World Wide Web
09/471,645	Secure Gateway Having Routing Feature
09/471,901	Secure Gateway Having User (ID) Identification and Password Authentication
09/489,517	Systems and Methods for Visualizing a Communications Network
09/491,909	An Inexpensive Readily Deployable, High Capacity Underwater Network
09/502,476	Domain-Independent Reconfigurable Scheduler

<u>Serial No.</u>	<u>Title</u>
09/503,143	Message Routing Coordination in Communication Systems
09/504,974	System and Method for Facilitating Communication Between Dissimilar Radio Voice Devices
09/524,112	Portal Switch for Electronic Commerce
09/532,255	Systems and Methods that Protect Against Denial of Service Attacks
09/533,148	System and Method for Improving Traffic Analysis and Network Modeling
09/533,467	Method and Apparatus for Detecting Unreliable or Compromised Router/Switches in Link State Routing
09/535,602	Systems and Methods for Standardizing Network Devices
09/539,972	Graphical User Interface and Method for Customer Centric Network Management
09/544,628	Extendable Tool for Use Marking Angular Lines
09/548,547	Intrusion and Misuse Deterrence System
09/559,135	Advertising-Subsidized PC-Telephony
09/560,006	Synchronized Spatial-Temporal Browsing of Images for Selection of Indexed Temporal Multimedia Titles
09/573,603	System and Method for Turning a Telephone Conversation into Binding Contract
09/574,140	Méthod and System for Independent Per Party Volume Control for a Packetized Telephone
09/575,102	Systems and Methods for Reducing the Occurrence of Annoying Voice Calls
09/575,897	System and Method for Improving the Performance of Rate Adoptive Networking Protocols
09/584,860	System and Method for Deploying Fiber Optic Networks Through Water Distribution Systems
09/585,933	Methods and Systems for Supplying Encryption Keys

<u>Serial No.</u>	<u>Title</u>
09/586,457	Systems and Methods for Providing Customizable GEO-Location Tracking Services
09/591,761	Method and Apparatus for Supporting Authorities in a Public Key Infrastructure
09/594,100	Method and Apparatus for Dynamic Mapping
09/595,942	Method and Apparatus for Remote Identification of Transmission Channel Interference
09/597,111	Remote Access to Position Information Derived From Remote Positioning Units
09/597,492	System and Method for Performing a Secure Credit Transaction
09/604,230	Method and Apparatus for Calculating the Number of Very High Speed Digital Subscriber Line Nodes
09/611,783	A Highly Secure Communications Network Employing Quantum Cryptography Between Trusted Routers
09/614,491	Methods and Systems for Anonymous Tasking Via Persistent Storage
09/620,484	Systems and Methods Implementing Internet Screen Dialing for Circuit Switched Telephones
09/621,252	Systems and Methods for Conditional Routing of Calls in a Telephony Network
09/626,303	Systems and Methods for Improving Traffic Analysis in Networks
09/630,304	Systems and Methods for Predictive Routing
09/633,413	Method and Apparatus for Error Correction in a Ring Network with Queuing
09/633,719	A System for Detecting Spurious Network Traffic
09/634,416	Method and Apparatus for the Generation and Distribution of Random Bits
09/638,166	Routing T-37 E-Mail Over an H 323 (VOIP) Network
09/643,974	Systems and Methods for Transmitting Messages to Predefined Groups

<u>Serial No.</u>	<u>Title</u>
09/650,877	Routing Toll-Free Telecommunications Traffic Over Data Networks
09/654,365	Method and Apparatus for Score Normalization for Information Retrieval Applications
09/694,593	Systems and Methods Implementing Internet Screen Dialing for Circuit Switched Telephones
09/697,095	Method and Apparatus for Filtering Electronic Communications Received Over A Network
09/704,916	Flexible Web-Based Interface for Workflow Management Systems
09/707,726	Method and Apparatus for Estimating the Call Grade of Service and Offered Traffic for Voice Over Internet Protocol Calls at a PSTN-IP Network Gateway
09/714,150	Distributed Computing System and Method for Distributing User Requests to Replicated Network Servers
09/725,762	Systems and Methods for Implementing Global Virtual Circuits in Packet-Switched Networks
09/725,939	Systems and Methods for Negotiating Virtual Circuit Paths in Packet Switched Networks
09/726,056	Systems and Methods for Implementing Second-Link Routing in Packet Switched Networks
09/748,621	Architecture and Mechanism for Forwarding Layer Interfacing for Networks
09/822,043	A Passive System and Method for Measuring the Subjective Quality of Real-Time Media Streams in a Packet-Switching Network
09/822,085	Methods and Systems for the Estimation of the Injection Point of Foreign Signals in a Network
09/938,923	Method and System for Connectionless Communication in a Cell Relay Satellite Network
09/942,276	Voice Activated Web Browser
09/999,348	Method and System for Burst Congestion Control in an Internet Protocol Network
10/095,821	Information Retrieval System

<u>Serial No.</u>	<u>Title</u>
10/096,193	Method and Apparatus for Stripping Packets Over Parallel Communication Links
10/158,771	Allocation of Channel Capacity in Multiservice Networks
GTE 99-311 Cont. of 09/450,601	Connectivity Service-Level Guarantee Monitoring and Claim Validation Systems and Methods
GTE 99-408 Cont. of 09/504,974	Method and Apparatus for Dissimilar Radio Connectivity
GTE 99-866 Cont. of 09/431,292	Hypervideo: Information Retrieval Using Multimedia
GTE 99-867 Cont. of 09/431,293	Hypervideo: Information Retrieval Using Realtime Buffers

SCHEDULE B
Foreign Applications for Letter Patent

<u>Serial No.</u>	<u>Title</u>
PCT/US97/04999	Performance Monitoring In Electronic Communications Network
PCT/US97/18005	System And Method For Genetic Algorithm Scheduling
PCT/US99/03192	Voice Activated Relational Database System Providing User Assistance
PCT/US97/08714	Data Packet Router
PCT/US97/22542	Distributing User Requests To Replicated Network Servers Selecting Route Between Content Server And Client
CA-2286994	Method And Apparatus For Stripping Packets Over Parallel Communication Links
DE-19950822	Method And Apparatus For Stripping Packets Over Parallel Communication Links
PCT/US99/03494	Multiplexing Bytes Over Parallel Communication Links Using Data Slices
PCT/US99/08048	Evaluating Generic Programming Parse-Trees
AU-5271186	Apparatus For Adjusting Phase Of Data Signals
CA-1256168	Apparatus For Adjusting Phase Of Data Signals
DE-3604277	Apparatus For Adjusting Phase Of Data Signals
FR-2590425	Apparatus For Adjusting Phase Of Data Signals
JP-62023647	Apparatus For Adjusting Phase Of Data Signals
GB-2171577	Apparatus For Adjusting Phase Of Data Signals
PCT/DK87/00023	Multiplex/Demultiplex Processing Of Information
JP-2263260	Memory Accessing Switch Network
DE-68925571	Memory Accessing Switch Network
EP-0371772	Memory Accessing Switch Network

<u>Serial No.</u>	<u>Title</u>
PCT/US99/24821	Speaker Identifier For Multi-Party Conference
PCT/US99/24817	Multiline Appearance Telephoning Via A Computer Network
PCT/US99/24820	Multiline Telephoning Via Network Gateway
PCT/US99/12416	Method And System For Monitoring Broadband Quality Of Services
PCT/US99/11052	Method And Apparatus For Digital Subscriber Loop Qualification
PCT/US99/16983	Information Retrieval System
PCT/US99/13502	Method And System For Connectionless Communication In A Cell Relay Satellite Network
PCT/US00/23281	System And Method For Processing And Collecting Data From A Call Center
PCT/US99/19554	Method And System For Burst Congestion Control In An Internet Protocol Network
PCT/US99/14623	Method And System For Burst Congestion Controlling An Atm Network
PCT/US99/16298	Estimating Source-Destination Traffic In A Packet-Switched Communications Network
PCT/US00/29893	Capturing Telephone Calls
PCT/US00/29792	Systems and Methods for Providing Chat Room Participants with Private and Anonymous Voice Communication
PCT/US01/08976	Analyzing Network Traffic
PCT/US00/10179	Intrusion And Misuse Deterrence System
PCT/US00/29900	Verification Of Content Stored And Network
PCT/US00/33813	Secure Gateway Having A Routing Feature
PCT/US00/33816	Secure Gateway Having User Id And Password Authentication
PCT/US00/24375	Secure Play Of Performance Data

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.

1162028.2

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

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

GENUITY INC.

By: DPO'Brien Date: 2/4/03

Title: _____

COMMONWEALTH OF MASSACHUSETTS)

) ss.

COUNTY OF MIDDLESEX)

On this 4th of February, 2003, before me personally appeared Daniel O'Brien to me known and known to me to be the person described in and who executed the foregoing instrument, and he duly acknowledged to me that he executed the same for the uses and purposes therein set forth.

[SEAL]

D.P. Grinn
Notary Public

GENUITY INTERNATIONAL INC.

By: DPO'Brien Date: 2/4/03

Title: _____

COMMONWEALTH OF MASSACHUSETTS)

) ss.

COUNTY OF MIDDLESEX)

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[SEAL]

D.P. Grinn
Notary Public

GENUITY INTERNATIONAL NETWORKS INC.

By: DPO'Brien Date: 2/4/03

Title: _____

COMMONWEALTH OF MASSACHUSETTS)

) ss.

COUNTY OF MIDDLESEX)

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[SEAL]

D.P. Gemin
Notary Public

GENUITY SOLUTIONS INC.

By: DPO'Brien Date: 2/4/03

Title: _____

COMMONWEALTH OF MASSACHUSETTS)

) ss.

COUNTY OF MIDDLESEX)

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[SEAL]

D.P. Gemin
Notary Public

GENUITY TELECOM INC.

By: DPO'Brien Date: 2/4/03

Title: _____

COMMONWEALTH OF MASSACHUSETTS)

) ss.

COUNTY OF MIDDLESEX)

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[SEAL]

Dal P. Gumm
Notary Public

GENUITY EMPLOYEE HOLDINGS LLC

By: DPO'Brien Date: 2/4/03

Title: _____

COMMONWEALTH OF MASSACHUSETTS)

) ss.

COUNTY OF MIDDLESEX)

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[SEAL]

Dal P. Gumm
Notary Public

LEVEL 3 COMMUNICATIONS LLC

By: _____

Date: _____

02/04/03

Title: _____

Robert M. Yates
Vice President

STATE OF _____

NY

ss.

COUNTY OF _____

NY

On this 4th of February, 2003 before me personally appeared Robert M. Yates to me known and known to me to be the person described in and who executed the foregoing instrument, and he duly acknowledged to me that he executed the same for the uses and purposes therein set forth.

[SEAL]

FRANCIS J. KELLEHER
Notary Public, State of New York
No. 01KE607946
Qualified in New York County
Commission Expires Aug. 20, 2004

Notary Public

[Signature]

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
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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
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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

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.

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

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

GENUITY INC.

By: DPO'Brien Date: 2/4/03

Title: _____

COMMONWEALTH OF MASSACHUSETTS)

) ss.

COUNTY OF MIDDLESEX)

On this 4th of February, 2003, before me personally appeared Daniel O'Brien to me known and known to me to be the person described in and who executed the foregoing instrument, and he duly acknowledged to me that he executed the same for the uses and purposes therein set forth.

[SEAL]

D.P. Grinn
Notary Public

GENUITY INTERNATIONAL INC.

By: DPO'Brien Date: 2/4/03

Title: _____

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By: DPO'Brien Date: 2/4/03

Title: _____

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D.P. Gemin
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GENUITY TELECOM INC.

By: DPO'Brien Date: 2/4/03

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[SEAL]

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Title: _____

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[SEAL]

Dal P. Gumm
Notary Public

LEVEL 3 COMMUNICATIONS LLC

By: [Signature] Date: 02/04/03

Title: Robert M. Yates
Vice President

STATE OF NY)
COUNTY OF NY) ss.

On this 4th of February, 2003 before me personally appeared Robert M. Yates to me known and known to me to be the person described in and who executed the foregoing instrument, and he duly acknowledged to me that he executed the same for the uses and purposes therein set forth.

[SEAL]

[Signature]
Notary Public
FRANCIS J. KELLEHER
Notary Public, State of New York
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Qualified in New York County
Commission Expires Aug. 20, 2004

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