PTO/SB/01 (10-01)
Approved for use through 10/31/2002. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR 1.63)

☒ Declaration Submitted with Initial Filing OR ☐ Declaration Submitted after Initial Filing (surcharge (37 CFR 1.16 (e)) required)

Attorney Docket Number	1104-111
First Named Inventor	Gregory Morgan Evans
COMPLETE IF KNOWN	
Application Number	
Filing Date	
Art Unit	
Examiner Name	

As the below named inventor, I hereby declare that:

My residence, mailing address, and citizenship are as stated below next to my name.

I believe I am the original and first inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled:

HIGH-SPEED WAN TO WIRELESS LAN GATEWAY

(Title of the Invention)

the specification of which

☒ is attached hereto

OR

☐ was filed on (MM/DD/YYYY) _____ as United States Application Number or PCT International Application Number _____ and was amended on (MM/DD/YYYY) _____ (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or (f), or 365(b) of any foreign application(s) for patent, inventor's or plant breeder's rights certificate(s), or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent, inventor's or plant breeder's rights certificate(s), or any PCT international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application Number(s)	Country	Foreign Filing Date (MM/DD/YYYY)	Priority Not Claimed	Certified Copy Attached? YES	NO
			☐	☐	☐
			☐	☐	☐
			☐	☐	☐
			☐	☐	☐

☐ Additional foreign application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto:

PTO/SB/01 (10-01)
Approved for use through 10/31/2002. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

DECLARATION — Utility or Design Patent Application

Direct all correspondence to: [x] Customer Number or Bar Code Label 27820 OR [ ] Correspondence address below

Name

Address

City | State | ZIP

Country | Telephone | Fax

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

NAME OF SOLE OR FIRST INVENTOR : [ ] A petition has been filed for this unsigned inventor

Given Name (first and middle [if any]): Gregory Morgan | Family Name or Surname: Evans

Inventor's Signature: Greg Morgan Evans | Date: 6/26/2006

Residence: City: Raleigh | State: NC | Country: USA | Citizenship: USA

Mailing Address: 2205 Ravens Creek Court

City: Raleigh | State: NC | ZIP: 27603 | Country: USA

NAME OF SECOND INVENTOR: [ ] A petition has been filed for this unsigned inventor

Given Name (first and middle [if any]) | Family Name or Surname

Inventor's Signature | Date

Residence: City | State | Country | Citizenship

Mailing Address

City | State | ZIP | Country

[ ] Additional inventors are being named on the ____supplemental Additional Inventor(s) sheet(s) PTO/SB/02A attached hereto.

PTO/SB/14 (11-08)
Approved for use through 01/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	1104-111C
	Application Number	
Title of Invention	HIGH-SPEED WAN TO WIRELESS LAN GATEWAY	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Applicant Information:

Applicant 1 Remove

Applicant Authority ◉ Inventor ○ Legal Representative under 35 U.S.C. 117 ○ Party of Interest under 35 U.S.C. 118

Prefix	Given Name	Middle Name	Family Name	Suffix
	Gregory	Morgan	Evans	

Residence Information (Select One) ◉ US Residency ○ Non US Residency ○ Active US Military Service

City	Raleigh	State/Province	NC	Country of Residence i	US

Citizenship under 37 CFR 1.41(b) i: US

Mailing Address of Applicant:

Address 1	2205 Ravens Creek Court		
Address 2			
City	Raleigh	State/Province	NC
Postal Code	27603	Country i	US

All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the **Add** button. Add

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

☐ **An Address is being provided for the correspondence Information of this application.**

Customer Number	74548		
Email Address	patents@withrowterranova.com	Add Email	Remove Email

Application Information:

Title of the Invention	HIGH-SPEED WAN TO WIRELESS LAN GATEWAY		
Attorney Docket Number	1104-111C	Small Entity Status Claimed	☐
Application Type	Nonprovisional		
Subject Matter	Utility		
Suggested Class (if any)		Sub Class (if any)	
Suggested Technology Center (if any)			
Total Number of Drawing Sheets (if any)	4	Suggested Figure for Publication (if any)	1

PTO/SB/14 (11-08)
Approved for use through 01/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	1104-111C
	Application Number	
Title of Invention	HIGH-SPEED WAN TO WIRELESS LAN GATEWAY	

Publication Information:

☐	Request Early Publication (Fee required at time of Request 37 CFR 1.219)
☒	**Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S. C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32).
Enter either Customer Number or complete the Representative Name section below. If both sections are completed the Customer Number will be used for the Representative Information during processing.

Please Select One:	◉ Customer Number	○ US Patent Practitioner	○ Limited Recognition (37 CFR 11.9)
Customer Number	74548		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78(a)(2) or CFR 1.78(a)(4), and need not otherwise be made part of the specification.

Prior Application Status			Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	Continuation of	11475360	2006-06-27

Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button. Add

Foreign Priority Information:

This section allows for the applicant to claim benefit of foreign priority and to identify any prior foreign application for which priority is not claimed. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(a).

Remove

Application Number	Country [i]	Parent Filing Date (YYYY-MM-DD)	Priority Claimed
			○ Yes ◉ No

Additional Foreign Priority Data may be generated within this form by selecting the **Add** button. Add

Assignee Information:

Providing this information in the application data sheet does not substitute for compliance with any requirement of part 3 of Title 37 of the CFR to have an assignment recorded in the Office.

Assignee 1 Remove

PTO/SB/14 (11-08)
Approved for use through 01/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	1104-111C
	Application Number	
Title of Invention	HIGH-SPEED WAN TO WIRELESS LAN GATEWAY	

If the Assignee is an Organization check here. ☒			
Organization Name	Qurio Holdings, Inc.		
Mailing Address Information:			
Address 1	1130 Situs Court		
Address 2	Suite 216		
City	Raleigh	**State/Province**	NC
Country [i]	US	Postal Code	27606
Phone Number		Fax Number	
Email Address			
Additional Assignee Data may be generated within this form by selecting the **Add** button.		Add	

Signature:

A signature of the applicant or representative is required in accordance with 37 CFR 1.33 and 10.18. Please see 37 CFR 1.4(d) for the form of the signature.

Signature	/R. Chad Bevins/			Date (YYYY-MM-DD)	2011-12-19
First Name	R. Chad	Last Name	Bevins	Registration Number	51468

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

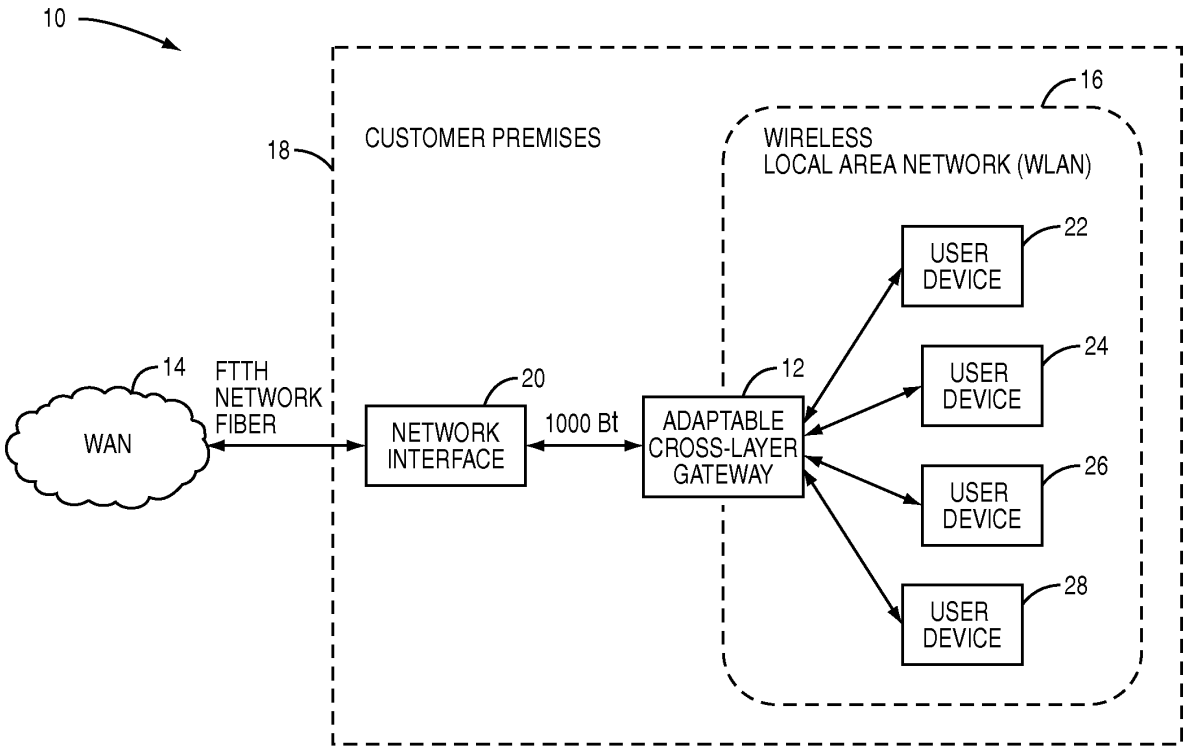

10
16
18
CUSTOMER PREMISES
WIRELESS
LOCAL AREA NETWORK (WLAN)
22
USER
DEVICE
24
USER
DEVICE
26
USER
DEVICE
28
USER
DEVICE
14
FTTH
NETWORK
FIBER
WAN
20
NETWORK
INTERFACE
1000 Bt
12
ADAPTABLE
CROSS-LAYER
GATEWAY

FIG. 1

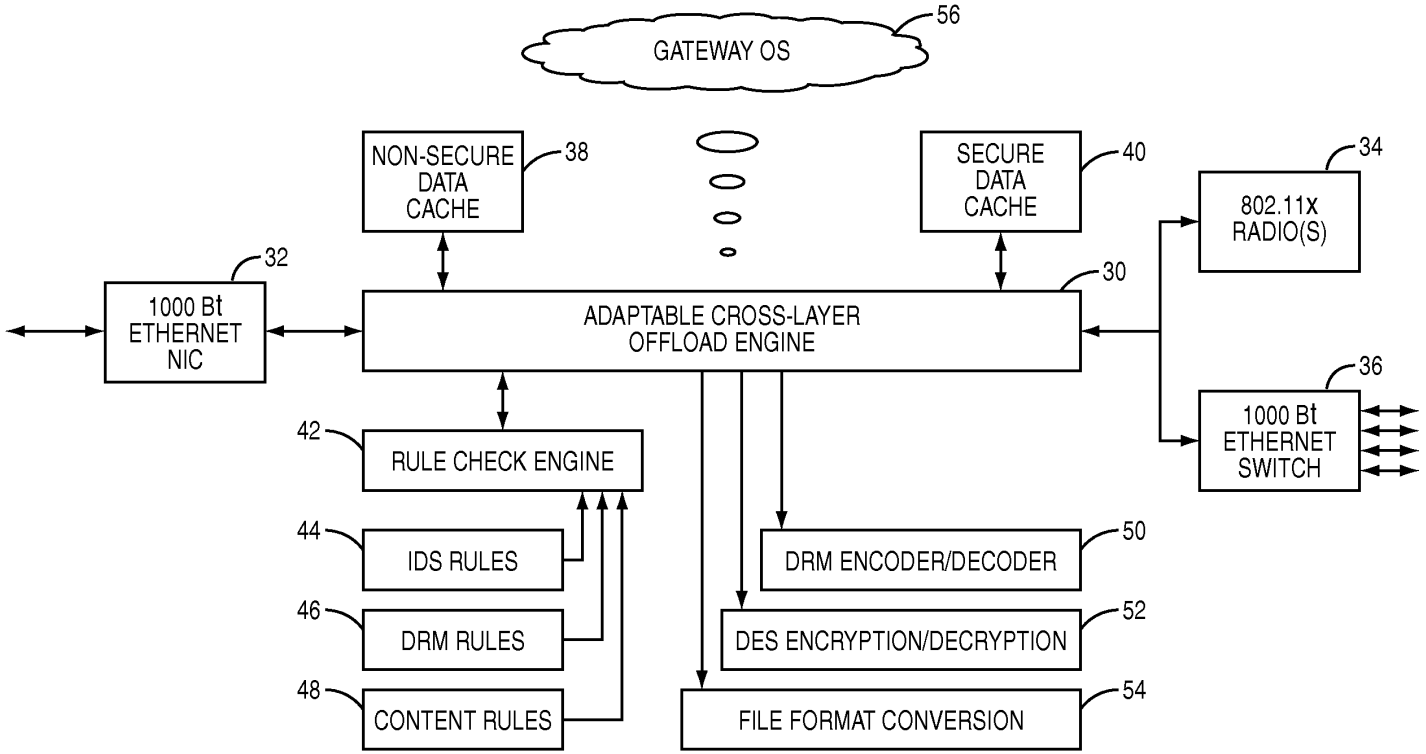

GATEWAY OS
56
NON-SECURE DATA CACHE
38
SECURE DATA CACHE
40
802.11x RADIO(S)
34
32
1000 Bt ETHERNET NIC
ADAPTABLE CROSS-LAYER OFFLOAD ENGINE
30
36
1000 Bt ETHERNET SWITCH
42
RULE CHECK ENGINE
44
IDS RULES
DRM ENCODER/DECODER
50
46
DRM RULES
DES ENCRYPTION/DECRYPTION
52
48
CONTENT RULES
FILE FORMAT CONVERSION
54

FIG. 2

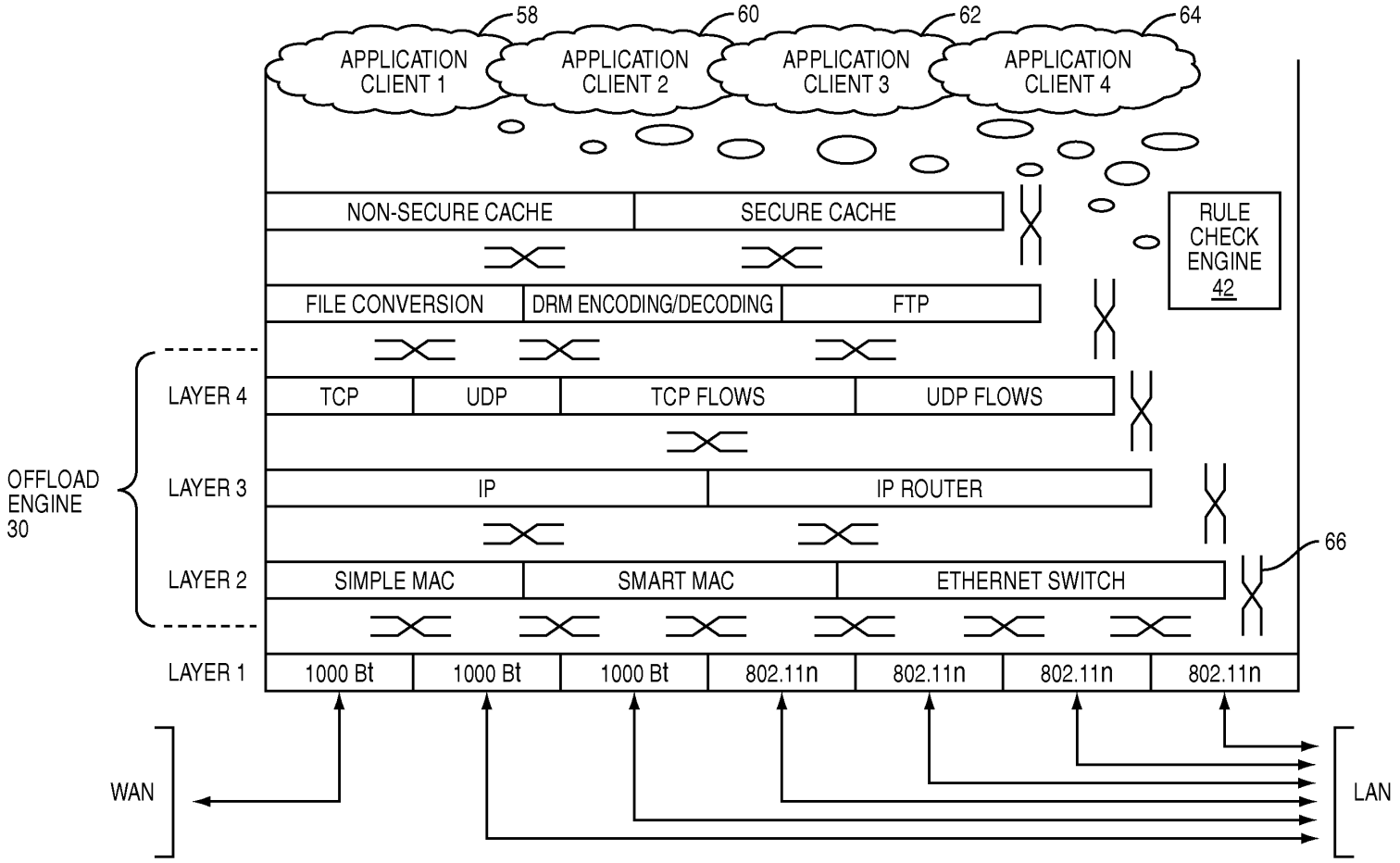

58
60
62
64
APPLICATION CLIENT 1
APPLICATION CLIENT 2
APPLICATION CLIENT 3
APPLICATION CLIENT 4
NON-SECURE CACHE
SECURE CACHE
RULE CHECK ENGINE 42
FILE CONVERSION
DRM ENCODING/DECODING
FTP
OFFLOAD ENGINE 30
LAYER 4
TCP
UDP
TCP FLOWS
UDP FLOWS
LAYER 3
IP
IP ROUTER
66
LAYER 2
SIMPLE MAC
SMART MAC
ETHERNET SWITCH
LAYER 1
1000 Bt
1000 Bt
1000 Bt
802.11n
802.11n
802.11n
802.11n
WAN
LAN

FIG. 3

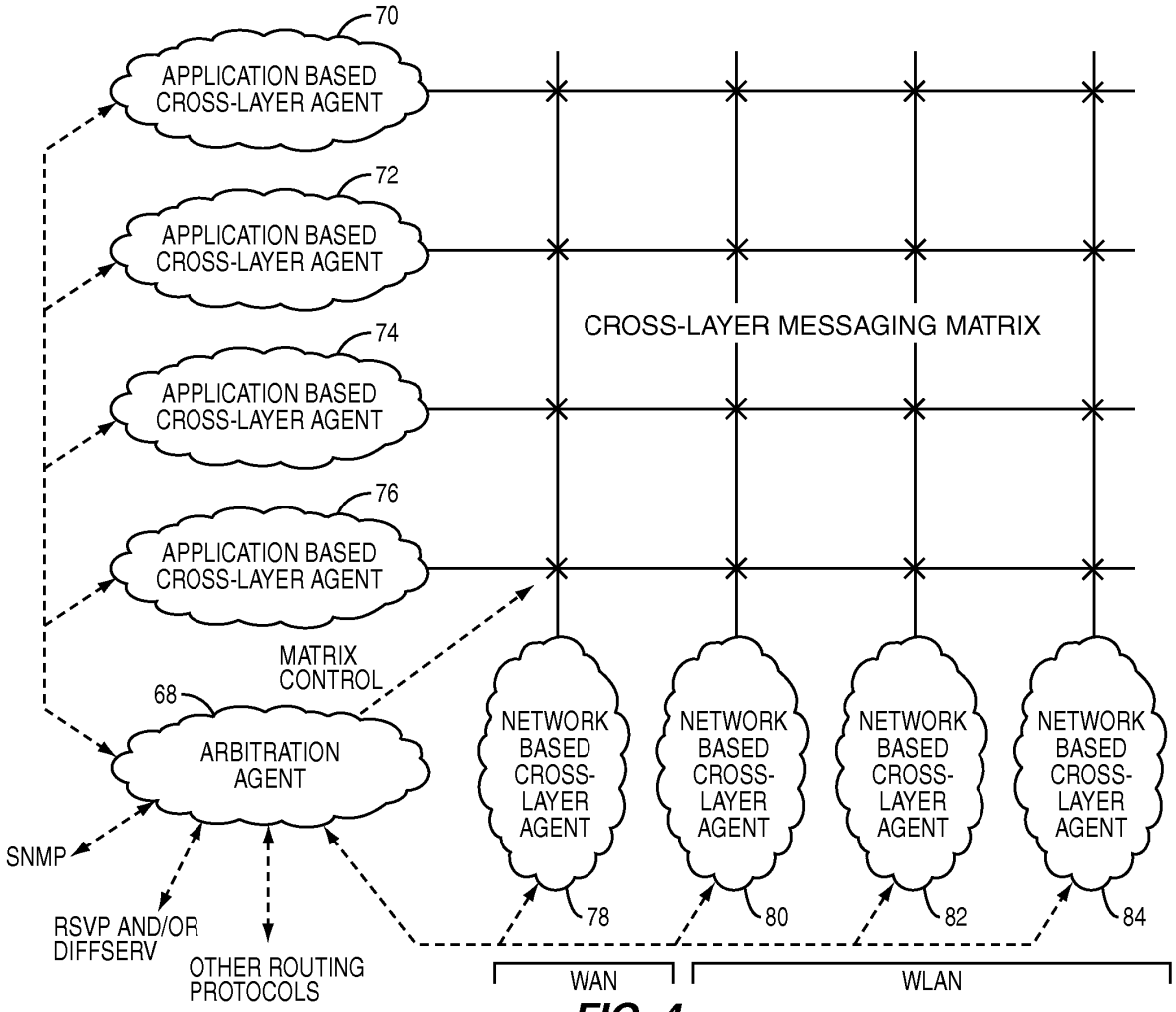

70
APPLICATION BASED CROSS-LAYER AGENT
72
APPLICATION BASED CROSS-LAYER AGENT
74
APPLICATION BASED CROSS-LAYER AGENT
76
APPLICATION BASED CROSS-LAYER AGENT
CROSS-LAYER MESSAGING MATRIX
MATRIX CONTROL
68
ARBITRATION AGENT
SNMP
RSVP AND/OR DIFFSERV
OTHER ROUTING PROTOCOLS
NETWORK BASED CROSS-LAYER AGENT
78
NETWORK BASED CROSS-LAYER AGENT
80
NETWORK BASED CROSS-LAYER AGENT
82
NETWORK BASED CROSS-LAYER AGENT
84
WAN
WLAN

FIG. 4

HIGH-SPEED WAN TO WIRELESS LAN GATEWAY

Related Applications

[0001] The present application is a continuation of U.S. Application Serial No. 11/475,360, filed June 27, 2006, the disclosure of which is hereby incorporated by reference herein in its entirety.

Field of the Invention

[0002] The present invention relates to a gateway device and more particularly relates to a gateway device interconnecting a high speed Wide Area Network (WAN) to a lower speed Wireless Local Area Network (WLAN).

Background of the Invention

[0003] Historically, residential gateways provided a routing function from an in-home Local Area Network (LAN) to a Wide Area Network (WAN) based Asynchronous Digital Subscriber Line (ADSL) or Data Over Cable Service Interface Specification (DOCSIS) connection. Bandwidth available from the WAN ranged from 200 kbps to 6 Mbps. The LAN side of the gateway was either a single or multiple 10/100Bt Ethernet connections serving client computers. Eventually, these Ethernet connections were replaced with wireless IEEE 802.11b/a/g LANs operating from 6 to 50 Mbps. The smaller bandwidth capabilities of the WAN versus the LAN kept downstream traffic flow simple in the gateway. Upstream traffic from the LAN to WAN was seldom an issue because users were less sensitive to this bottleneck. A typical upstream bottleneck scenario would be sending an email with a large attachment. In this situation, the Transfer Control Protocol (TCP) service of the gateway would simply throttle the LAN connection to the appropriate speed for the WAN.

[0004] With the advent of Fiber-to-the-Home (FTTH) networks, the traditional scenario described above has been reversed. In a FTTH network, a high speed FTTH data connection is provided to the residential gateway. The FTTH data connection provides data rates in the range of 1 to 10 Gbps. In contrast, the proposed IEEE 802.11n standard for wireless LANs provides data rates in the range of 100 to 500 Mbps. As such, the traditional

residential gateway architecture will limit overall performance to the wireless LAN bandwidth, thereby negating much of the value of the FTTH connection. Thus, there is a need for an improved residential gateway architecture for interconnecting a high speed WAN to a lower speed wireless LAN.

Summary of the Invention

[0005] The present invention relates to a gateway interconnecting a high speed Wide Area Network (WAN) and a lower speed Wireless Local Area Network (WLAN). The high speed WAN is preferably connected to the gateway via a Fiber-to-the-Home (FTTH) connection and associated FTTH modem. In general, the gateway includes an adaptable cross-layer offload engine operating to manage bandwidth between the high speed WAN and the lower speed WLAN. As data enters the gateway from the WAN at the high speed data rate of the WAN, the offload engine stores the data in a non-secure data cache. A rule check engine performs a stateless or stateful inspection of the data in the non-secure data cache. Once inspected by the rule check engine, the data is moved from the non-secure cache to the secure cache and thereafter transmitted to an appropriate user device in the WLAN at a lower data rate of the WLAN.

[0006] Prior to transmitting the data, the gateway may also perform additional functions such as, but not limited to, file format conversion, Digital Rights Management (DRM) encoding or decoding, and Data Encryption Standard (DES) encryption or decryption.

[0007] Those skilled in the art will appreciate the scope of the present invention and realize additional aspects thereof after reading the following detailed description of the preferred embodiments in association with the accompanying drawing figures.

Brief Description of the Drawing Figures

[0008] The accompanying drawing figures incorporated in and forming a part of this specification illustrate several aspects of the invention, and together with the description serve to explain the principles of the invention.

[0009] Figure 1 illustrates a system including an adaptable cross-layer gateway for interconnecting, or bridging, a high speed Wide Area Network

(WAN) to a lower speed Wireless Local Area Network (WLAN) according to one embodiment of the present invention;

[0010] Figure 2 is a block diagram of the adaptable cross-layer gateway of Figure 1 according to one embodiment of the present invention;

[0011] Figure 3 is an exemplary protocol stack representation of the adaptable cross-layer gateway according to one embodiment of the present invention; and

[0012] Figure 4 illustrates an exemplary cross-messaging matrix controlled to provide a complete protocol stack having a cross-layer architecture for a network connection implemented by the adaptable cross-layer gateway according to one embodiment of the present invention.

Detailed Description of the Preferred Embodiments

[0013] The embodiments set forth below represent the necessary information to enable those skilled in the art to practice the invention and illustrate the best mode of practicing the invention. Upon reading the following description in light of the accompanying drawing figures, those skilled in the art will understand the concepts of the invention and will recognize applications of these concepts not particularly addressed herein. It should be understood that these concepts and applications fall within the scope of the disclosure and the accompanying claims.

[0014] Figure 1 illustrates a system 10 including an adaptable cross-layer gateway 12 interconnecting, or bridging, a high speed WAN 14 and a lower speed WLAN 16 according to one embodiment of the present invention. In addition, as discussed below, the gateway 12 offloads data to data caches in order to take advantage of the high data rate provided by the high speed WAN 14. In addition, by using cross-layering techniques, the gateway 12 improves the performance of the WLAN 16 in order to take further advantage of the high speed WAN 14. The gateway 12 may be implemented in hardware or a combination of hardware and software. For example, the gateway 12 may include one or more Application Specific Integrated Circuits (ASICs), one or more Digital Signal Processors (DSPs), one or more Field Programmable Gate Arrays (FPGAs), or the like.

[0015] The WAN 14 may be a distributed public access network such as the Internet. Preferably, the WAN 14 provides a Fiber-to-the-Home (FTTH) connection to a customer premises 18, which in this example includes a network interface 20, the gateway 12, and the WLAN 16. FTTH generally refers to a broadband network where a fiber-optic connection is provided to the home. The FTTH connection provides data rates equal to or greater than 1 Gigabit per second (Gbps). For example, the FTTH connection may provide data rates in the range of and including 1 to 10 Gbps. The network interface 20 may be a FTTH modem providing an interface between the FTTH connection and the gateway 12. In this exemplary embodiment, the network interface 20 provides an optical to electrical Gigabit Ethernet connection (1000Bt) to the gateway 12. It should be noted that while the preferred high speed connection to the WAN 14 is the FTTH connection discussed herein, the present invention is not limited thereto. The gateway 12 of the present invention may be used to interconnect, or bridge, any high speed WAN to a lower speed LAN regardless of the type of connection provided to the WAN. For example, the gateway 12 may interconnect an OC-192 (9.95328 Gbps) or 10 Gigabit Ethernet WAN to a multiport Gigabit Ethernet (1000Bt) lower speed LAN.

[0016] The WLAN 16 may operate, for example, according to one or more of the suite of IEEE 802.11 standards such as the IEEE 802.11a, IEEE 802.11b, IEEE 802.11g, or the proposed IEEE 802.11n standards. The WLAN 16 is formed by the gateway 12 and a number of user devices 22-28 each having a wireless interface. The user devices 22-28 may be, for example, personal computers, Personal Video Recorders (PVRs), Personal Digital Assistants (PDAs), other Internet Protocol (IP) appliances, or the like, or any combination thereof.

[0017] Figure 2 is a more detailed block diagram of the gateway 12 according to one embodiment of the present invention. At the heart of the gateway 12 is an adaptable cross-layer offload engine 30 that manages bandwidth, or traffic flow, between the WAN 14 and the WLAN 16. The offload engine 30 utilizes cross-layer functionality and is configurable to adapt to varying conditions in the WLAN 16. The offload engine 30 is preferably

implemented in hardware, but may alternatively be implemented in software or a combination of hardware and software.

[0018] The offload engine 30 is communicatively coupled to the WAN 14 via, in this example, a Gigabit Ethernet Network Interface Card (NIC) 32, which is connected to the WAN 14 (Figure 1) via the network interface 20. The NIC 32 may generally be referred to as a high speed network interface. The offload engine 30 is communicatively coupled to the WLAN 16, and more specifically the user devices 22-28 in the WLAN 16, via one or more wireless radios 34. In this example, the wireless radios 34 are IEEE 802.11n wireless radios. However, the present invention is not limited thereto. The gateway 12 may also include an Ethernet switch 36 or the like providing one or more wired connections to additional LAN devices.

[0019] The gateway 12 also includes a non-secure data cache 38 and a secure data cache 40. The non-secure and secure data caches 38 and 40 are used to buffer data as needed by the offload engine 30. While illustrated separately, the data caches 38 and 40 may be implemented in a single physical cache where, for example, flags are used to identify secure and non-secure data. The non-secure data cache 38 is used to store received data from the WAN 14 for inspection and processing prior to forwarding the data to the WLAN 16. The non-secure data cache 38 may also be used to buffer large data sets from the WLAN 16 waiting for transmission over the WAN 14. By buffering data in the non-secure data cache 38, the gateway 12 is enabled to take advantage of the full bandwidth provided by the FTTH connection. The secure data cache 40 is used to temporarily store data from the non-secure data cache 38 that has been inspected and cleared for transmission prior to transmission to the user devices 22-28 in the WLAN 16.

[0020] A rule check engine 42 operates to inspect the data in the non-secure data cache 38 according to a number of rules, which in this example include Intrusion Detection System (IDS) rules 44, Digital Rights Management (DRM) rules 46, and other general or specific content rules 48. The rule check engine 42 may perform stateless inspection, stateful inspection, or both stateless and stateful inspection. The IDS rules 44 are generally rules for detecting malicious network traffic and may include, for example, typical firewall rules. The DRM rules 46 may be rules for protecting media files, such

as videos, songs, and images, stored on the user devices 22-28 within the WLAN 16 when transmitted over the WAN 14. In addition, the DRM rules 46 may include rules for identifying incoming content to be encoded as a security feature to prevent unauthorized viewing of the specified content by, for example, children within the WLAN 16. The content rules 48 may include rules regulating the types of content that may be accessed by the user devices 22-28 within the WLAN 16. In addition, as discussed below, the rule check engine 42 may inspect the data passing through the gateway 12 based on rules for triggering additional functions provided by the gateway 12.

[0021] The gateway 12 may also include various additional functional components such as, but not limited to, a DRM encoder/decoder 50, a Digital Encryption System (DES) encryption/decryption function 52, and a file format conversion function 54. The functions 50-54 may be triggered either directly or indirectly by the rule check engine 42 based on associated rules used to inspect data passing through the gateway 12.

[0022] The DRM encoder/decoder 50 may be implemented in hardware, software, or a combination of hardware and software, and may be used to protect content transmitted over the WAN 14 from the user devices 22-28 within the WLAN 16. In addition or alternatively, the DRM encoder/decoder 50 may be used in conjunction with firewall technology to create a security feature that prevents unauthorized viewing of specified content on the user devices 22-28. More specifically, in the outgoing direction, the DRM encoder/decoder 50 may operate to encode content leaving the WLAN 16. For example, personal videos, songs, images, or the like stored by the user devices 22-28 may be encoded by the DRM encoder/decoder 50 such that only desired recipients may view or play the content. As for incoming content, the DRM encoder/decoder 50 may, for example, encode specified types of content from the WAN 14 to prevent unauthorized viewing by, for example, children. License keys could be distributed by the gateway 12 to appropriate user devices 22-28 to unlock the encoded content. It should be noted that the present invention is not limited to DRM encoding or decoding. Other types of encoding and decoding may be used as desired.

[0023] The DES encryption/decryption function 52 may be implemented in the wireless radios 34. However, the present invention is not limited thereto.

The DES encryption/decryption function 52 operates to provide encryption and decryption of data transmitted over the WLAN 16 as commonly understood in the art. Additionally, DES and DRM may share the same encryption/decryption functions.

[0024] The file format conversion function 54 may be implemented in hardware, software, or a combination of hardware and software, and may be used to reduce the size of or otherwise adapt incoming content in order to reduce the bandwidth required to transfer the content to the appropriate user devices 22-28. More specifically, the file format conversion function 54 may convert the content from a first file format to a second file format having reduced bandwidth requirements, reduce the quality of the content, or both. For example, the file format conversion function 54 may convert a Motion Pictures Experts Group (MPEG) Layer 2 (MPEG-2) video file to a MPEG Layer 4 (MPEG-4) video file, thereby reducing the bandwidth required to transfer the video file over the WLAN 16. In addition or alternatively, the file format conversion function 54 may reduce the quality of the content such that the bandwidth required to transfer the content over the WLAN 16 is also reduced. For example, the quality of video content may be reduced by reducing the resolution, bit rate, or frame rate. The file format conversion function 54 may process incoming content as the content is provided to the gateway 12 or after the content is entirely transferred to the gateway 12.

[0025] The gateway 12 also includes a gateway operating system (OS) 56, which operates to configure and control the operation of the offload engine 30, the rule check engine 42, and the various functions 50-54. The gateway OS 56 may include client agents loaded, or configured, by the user devices 22-28. Using these client agents, the gateway OS 56 may be configured to, for example, convert all incoming MPEG-2 files to MPEG-4 files for all of the user devices 22-28; convert all incoming MPEG-2 files to MPEG-4 files for the user device 22; convert all incoming MPEG-2 files to AVI files for the user device 24; block all video content to the user device 26; block only Internet Protocol (IP) streaming content to the user device 28; use DRM encoding on all multimedia content and restrict playback to the user device 22; and configure the gateway 12 to immediately cache e-mail with attachments and provide the e-mail and attachments to the appropriate one of the user devices 22-28 over

available radio frequency (RF) spectrum using a background operation. The above operations are intended to be exemplary and as such should not be construed to limit the scope of the present invention. These configurations may be implemented by the gateway OS 56 as additional rules for the rule check engine 42.

[0026] In operation, when data is received from the WAN 14 via the NIC 32, the offload engine 30 offloads the data into the non-secure data cache 38. While in the non-secure data cache 38, the data is inspected by the rule check engine 42 based on the rules 44-48 and any additional rules from the gateway OS 56 for triggering the functions 50-54. Once the data is cleared for transmission, the data is transferred to the secure data cache 40 where the data remains until transmission to the appropriate user devices 22-28 over the WLAN 16. As for outgoing data, data from the user devices 22-28 in the WLAN 16 is received by the gateway 12. For large data sets, such as large data files, or optionally for all outgoing data, the offload engine 30 offloads the data into the non-secure data cache 38. Once the data is buffered, the data is transmitted over the WAN 14. In one embodiment, the data is buffered to the extent needed to take full advantage of the bandwidth provided by the FTTH connection. However, note that for small data transfers such as, for example, a Hypertext Transfer Protocol (HTTP) request, the gateway 12 may chose not to buffer the data.

[0027] Figure 3 illustrates an Open Systems Interconnect (OSI) model of the gateway 12 showing the cross-layer implementation of the gateway 12 according to one embodiment of the present invention. The traditional OSI model allows communication and data exchange only between adjacent layers in the protocol stack. However, as illustrated in Figure 3, the gateway 12 enables communication and data exchange between all layers, including non-adjacent layers, of the protocol stack. The connectivity of the various layers of the protocol stack is controlled by the gateway OS 56. More specifically, in this embodiment, the gateway OS 56 includes application clients 58-64, which are associated with corresponding applications such as, but not limited to, a File Transfer Protocol (FTP) application, an HTTP application, a Real-time Transfer Protocol (RTP) and RTP Control (RTPC) application, and a streaming MPEG application. The application clients 58-64

operate to control the connectivity of the various protocol stack layers, or adapt the cross-layering scheme, for transfers by the associated applications.

[0028] In this embodiment, the offload engine 30 corresponds to layers 2-4 of the illustrated protocol stack. In addition, as illustrated, numerous switches 66 provide interfaces between the various protocol stack layers. The switches 66 may be implemented in hardware or software. In one embodiment, the switches 66 are implemented as an internal bus of the offload engine 30.

[0029] As will be apparent to one having ordinary skill in the art upon reading this disclosure, the performance of the WLAN 16 can be significantly improved by using cross-layering techniques. By improving the performance of the WLAN 16, the WLAN 16 gains further advantage from the high bandwidth capabilities of the FTTH connection to the WAN 14. For example, cross-layering techniques may be used to remove, or bypass, layers such as the IP/IP Router layer (Layer 3) when transferring data between the user devices 22-28 in the WLAN 16. Further, when the gateway 12, or more specifically the associated application client 58-64, detects that a data transfer is between two of the user devices 22-28, the gateway 12 may establish a Layer 2 connection between the two user devices using the Ethernet Switch service. In either of these situations, the gateway 12 may notify associated cross-layer agents on the user devices 22-28 of the cross-layering technique used for transfers to the user devices 22-28.

[0030] As another example, if an incoming data transfer meets alternate transfer criteria, the gateway 12 may use cross-layering techniques to establish an alternate point-to-point wireless link between the gateway 12 and the particular one of the user devices 22-28 over an alternate wireless channel. The alternate wireless channel may be a wireless channel not used by the gateway 12 when performing normal access point functions. For example, the alternate wireless channel may be provided by a secondary wireless communication interface operating on a frequency channel that does not overlap with the primary wireless channels used by the gateway 12 for normal access point operation. An exemplary system that establishes alternate wireless channels based on alternate transfer criteria is disclosed in U.S. Patent Application Serial No. 11/443,761, entitled SYSTEM AND METHOD FOR BYPASSING AN ACCESS POINT IN A LOCAL AREA

NETWORK FOR P2P DATA TRANSFERS, filed May 31, 2006, which is hereby incorporated herein by reference in its entirety.

[0031] Figure 4 illustrates a cross-layer messaging matrix that may be implemented by the gateway 12 to control the interconnections of the various protocol stack layers illustrated in Figure 5. For a detailed discussion of the cross-layer messaging matrix, the interested reader is referred to U.S. Patent Application Serial No. 11/443,882, entitled CROSS-LAYER ARCHITECTURE FOR A NETWORK DEVICE, filed May 31, 2006, which is hereby incorporated herein by reference in its entirety.

[0032] In general, an arbitration agent 68 operates to associate application based cross-layer agents 70-76 with one or more network based cross-layer agents 78-84 and to interconnect various layers of the protocol stack as needed to provide a complete cross-layer protocol stack for a given network connection. The application based cross-layer agents 70-76 are preferably sub-components of the application clients 58-64 (Figure 3), respectively. As such, each of the application based cross-layer agents 70-76 are associated with a particular application such as a FTP application, an HTTP application, a RTP/RTPC application, a streaming MPEG application, or the like. The network based cross-layer agents 78-84 are each associated with one of the wireless network interfaces 34, or radios 34, of the gateway 12. The network based cross-layer agents 78-84 provide or facilitate information-sharing between and control of the low level protocol stack layers. For example, the network based cross-layer agent 78 may provide or facilitate information sharing between and control of layers 1-4 for a first wireless network interface, or wireless radio, 34 of the gateway 12. Further, the network based cross-layer agent 78 may be associated with the application based cross-layer agents 70-76 by the arbitration agent 68 using the cross-layer messaging matrix to facilitate information sharing between and control of the low level protocol stack layers and the upper protocol stack layers when desired.

[0033] In operation, for example, if incoming data is to be transferred to the user device 22 within the WLAN 16 via the FTP application, the arbitration agent 68 may determine that a particular wireless network interface, or wireless radio, 34 of the gateway 12 is capable of or preferred for providing a network connection to the user device 22. Then, by controlling the cross-layer

messaging matrix, the arbitration agent 68 operates to interconnect the FTP application to the wireless network interface, or wireless radio, 34 via the protocol stack of the gateway 12, and interconnect the application based cross-layer agent 70 associated with the FTP application and the network based cross-layer agent 78 associated with the wireless network interface, or wireless radio, 34 to provide a complete protocol stack having a cross-layer architecture for the network connection.

[0034] Those skilled in the art will recognize improvements and modifications to the preferred embodiments of the present invention. All such improvements and modifications are considered within the scope of the concepts disclosed herein and the claims that follow.

Claims

What is claimed is:

1. A gateway interconnecting a Wide Area Network (WAN) to a lower speed Wireless Local Area Network (WLAN) comprising:

an adaptable cross-layer offload engine;

a data cache associated with the offload engine;

a network interface communicatively coupling the offload engine to the WAN and providing a first data rate; and

a wireless interface associated with the offload engine and adapted to communicate with a plurality of user devices within the WLAN, the wireless interface providing a second data rate that is less than the first data rate of the network interface;

wherein the offload engine is adapted to:

receive incoming data from the WAN via the network interface at the first data rate;

store the incoming data in the data cache; and

transmit the incoming data from the data cache to a corresponding one of the plurality of user devices in the WLAN via the wireless interface at the second data rate.

2. The gateway of claim 1 wherein the offload engine comprises a number of protocol stack layers from a protocol stack of the gateway and is implemented in a cross-layer architecture enabling communication between non-adjacent layers in the protocol stack.

3. The gateway of claim 1 wherein the network interface is coupled to the WAN via a Fiber-to-the-Home (FTTH) connection.

4. The gateway of claim 1 wherein the wireless interface operates according to one of the plurality of IEEE 802.11 standards.

5. The gateway of claim 1 wherein the first data rate provided by the network interface is at least 1 Gigabit per second (Gbps).

6. The gateway of claim 5 wherein the second data rate provided by the WLAN is less than or equal to 500 Megabits per second (Mbps).

7. The gateway of claim 1 further comprising a rule check engine adapted to inspect the incoming data from the WAN based upon at least one rule prior to transmitting the incoming data to the corresponding one of the plurality of user devices in the WLAN.

8. The gateway of claim 7 wherein the rule check engine performs a stateful inspection of the incoming data.

9. The gateway of claim 7 wherein the rule check engine performs a stateless inspection of the incoming data.

10. The gateway of claim 7 wherein the at least one rule comprises at least one intrusion detection rule for detecting malicious network traffic.

11. The gateway of claim 7 wherein the at least one rule comprises at least one Digital Rights Management (DRM) rule.

12. The gateway of claim 12 further comprising a DRM function initiated by the rule check engine based on the at least one DRM rule.

13. The gateway of claim 12 wherein:

the rule check engine is further adapted to inspect the incoming data based on the at least one DRM rule to identify data to be processed by the DRM function and initiate the DRM function for the identified data; and

the DRM function is adapted to encode the identified data such that encoded data is transmitted to the corresponding one of the plurality of user devices within the WLAN, and provide license keys for decoding the encoded data to desired ones of the plurality of user devices having permission to consume the encoded data.

14. The gateway of claim 7 wherein the at least one rule comprises at least one content rule identifying a type of content to block from entering the WLAN.

15. The gateway of claim 1 further comprising a file format conversion function adapted to convert the incoming data that is in a first file format to a second file format having lesser bandwidth requirements.

16. The gateway of claim 1 further comprising a conversion function adapted to convert the incoming data corresponding to a media file having a first quality to a media file having a lesser quality, thereby reducing bandwidth requirements for transferring the media file over the WLAN.

17. The gateway of claim 1 further comprising a rule check engine adapted to:

inspect the incoming data to identify data in a specified file format; and

initiate a file format conversion function adapted to convert the identified data to a new file format having lesser bandwidth requirements prior to transmission of the identified data over the WLAN.

18. The gateway of claim 1 further comprising a rule check engine adapted to:

inspect the incoming data to identify data corresponding to a media file in a specified file format; and

initiate a conversion function adapted to reduce a quality of the media file prior to transmission of the identified data over the WLAN.

19. The gateway of claim 1 wherein the offload engine is further adapted to:

receive outgoing data from one of the plurality of user devices within the WLAN at the second data rate provided by the wireless interface;

buffer the outgoing data in the data cache; and

transmit the outgoing data from the data cache to a desired end point via the network interface at the first data rate of the network interface.

20. The gateway of claim 19 further comprising:

a rule check engine adapted to inspect the outgoing data to identify data desired to be encoded prior to transmission over the WAN; and

a Digital Rights Management (DRM) encoding function adapted to encode the identified data prior to transmission over the WAN.

21. A method of interconnecting a Wide Area Network (WAN) and a lower speed Wireless Local Area Network (WLAN) comprising:

receiving incoming data from the WAN at a first data rate;

offloading the incoming data to a data cache; and

transmitting the incoming data from the data cache to a corresponding one of a plurality of user devices within the WLAN at a second data rate of the WLAN that is less than the first data rate of the WAN.

22. The method of claim 21 wherein transmitting the incoming data from the data cache comprises transmitting the incoming data from the data cache according to an adaptable cross-layering scheme.

23. The method of claim 21 wherein receiving the incoming data comprises receiving the incoming data from the WAN via a Fiber-to-the-Home (FTTH) connection.

24. The method of claim 21 further comprising inspecting the incoming data from the WAN in the data cache based upon at least one rule prior to transmitting the incoming data to the corresponding one of the plurality of user devices in the WLAN.

25. The method of claim 21 further comprising:

inspecting the incoming data in the data cache based on at least one Digital Rights Management (DRM) rule to identify data to be processed by a DRM function;

encode the identified data using the DRM function such that the encoded data is transmitted to the corresponding one of the plurality of user devices within the WLAN; and

providing license keys for decoding the encoded data to desired ones of the plurality of user devices having permission to consume the encoded data.

26. The method of claim 21 further comprising:

inspecting the incoming data to identify data in a specified file format;

converting the identified data to a new file format having lesser bandwidth requirements; and

transmitting the identified data in the new file format to the corresponding one of the plurality of user devices within the WLAN.

27. The method of claim 21 further comprising:

inspecting the incoming data to identify data corresponding to a media file in a specified file format;

reducing a quality of the media file, thereby reducing bandwidth requirements of the media file; and

transmitting the reduced quality media file to the corresponding one of the plurality of user devices in the WLAN.

28. A method of interconnecting a Wide Area Network (WAN) and a lower speed Wireless Local Area Network (WLAN) comprising:

receiving outgoing data from one of a plurality of user devices within the WLAN at a first data rate;

buffering the outgoing data in a data cache; and

transmitting the outgoing data from the data cache to a desired end point via the WAN at a second data rate greater than the first data rate of the WLAN.

29. The method of claim 28 further comprising:

inspecting the outgoing data to identify data desired to be encoded prior to transmission over the WAN; and

encoding the identified data prior to transmitting the identified data to the desired end point via the WAN.

Abstract of the Disclosure

A gateway interconnecting a high speed Wide Area Network (WAN) and a lower speed Wireless Local Area Network (WLAN) is provided. The high speed WAN is preferably connected to the gateway via a Fiber-to-the Home (FTTH) connection and associated FTTH modem. In general, the gateway includes an adaptable cross-layer offload engine operating to manage bandwidth between the high speed WAN and the lower speed WLAN. As data enters the gateway from the WAN at the high speed data rate of the WAN, the offload engine stores the data in a non-secure data cache. A rule check engine performs a stateless or stateful inspection of the data in the non-secure data cache. Thereafter, the data is moved from the non-secure data cache to a secure data cache and thereafter transmitted to an appropriate user device in the WLAN at the lower data rate of the WLAN.

Electronic Patent Application Fee Transmittal	
Application Number:	
Filing Date:	
Title of Invention:	HIGH-SPEED WAN TO WIRELESS LAN GATEWAY
First Named Inventor/Applicant Name:	Gregory Morgan Evans
Filer:	R. Chad Bevins/Julie Smith
Attorney Docket Number:	1104-111C
Filed as Large Entity	

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Utility application filing	1011	1	380	380
Utility Search Fee	1111	1	620	620
Utility Examination Fee	1311	1	250	250
Pages:				
Claims:				
Claims in excess of 20	1202	9	60	540
Miscellaneous-Filing:				
Petition:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		**1790**

Electronic Acknowledgement Receipt	
EFS ID:	11654156
Application Number:	13329992
International Application Number:	
Confirmation Number:	3088
Title of Invention:	HIGH-SPEED WAN TO WIRELESS LAN GATEWAY
First Named Inventor/Applicant Name:	Gregory Morgan Evans
Customer Number:	74548
Filer:	R. Chad Bevins/Julie Smith
Filer Authorized By:	R. Chad Bevins
Attorney Docket Number:	1104-111C
Receipt Date:	19-DEC-2011
Filing Date:	
Time Stamp:	16:11:53
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	$1790
RAM confirmation Number	3416
Deposit Account	501732
Authorized User	BEVINS,R. CHAD
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees) Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Oath or Declaration filed	1104-111C_Declaration.pdf	53573 61c9aff083ba7e864818f168dae97f1a91e3db86	no	2
Warnings:					
Information:					
2	Application Data Sheet	1104-111C_ADS.pdf	1027194 3f756b806c0cc19beda59e7fdad46b19c9e4225d	no	4
Warnings:					
Information:					
3	Drawings-only black and white line drawings	1104-111C_Drawings.pdf	51943 1b09aa2fba9bca006f254b4c9b280bf6a629c07d	no	4
Warnings:					
Information:					
4		1104-111C_Application.pdf	83094 0748e51ea620f1af811d21cd2f0a69b5a2c4a6c9	yes	18

Multipart Description/PDF files in .zip description

Document Description	Start	End
Specification	1	11
Claims	12	17
Abstract	18	18

Warnings:					
Information:					
5	Fee Worksheet (SB06)	fee-info.pdf	36907 de9dd56a40d6cb02906b33f73202d1772ad72ce4	no	2
Warnings:					
Information:					
			Total Files Size (in bytes):	1252711	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
13/329,992	12/19/2011	2447	1790	1104-111C	29	3

CONFIRMATION NO. 3088

74548
FlashPoint Technology and Withrow & Terranova
100 Regency Forest Drive
Suite 160
Cary, NC 27518

FILING RECEIPT

OC000000051770263

Date Mailed: 01/04/2012

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Applicant(s)

Gregory Morgan Evans, Raleigh, NC;

Assignment For Published Patent Application

QURIO HOLDINGS, INC., Raleigh, NC

Power of Attorney: None

Domestic Priority data as claimed by applicant

This application is a CON of 11/475,360 06/27/2006 PAT 8102863

Foreign Applications (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.)

If Required, Foreign Filing License Granted: 01/03/2012

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 13/329,992**

Projected Publication Date: Request for Non-Publication Acknowledged

Non-Publication Request: Yes

Early Publication Request: No

Title

HIGH-SPEED WAN TO WIRELESS LAN GATEWAY

Preliminary Class

709

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4158).

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as

set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign AssetsControl, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 13/329,992

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY FEE($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	380
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	620
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	250
TOTAL CLAIMS (37 CFR 1.16(i))	29 minus 20 =	* 9			OR	x 60 =	540
INDEPENDENT CLAIMS (37 CFR 1.16(h))	3 minus 3 =	*				x 250 =	0.00
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						0.00
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							0.00
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	1790

APPLICATION AS AMENDED - PART II

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
AMENDMENT A	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE($)	ADDITIONAL FEE($)		RATE($)	ADDITIONAL FEE($)
AMENDMENT B	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Gregory Morgan Evans
Serial No. 13/329,992
Filed: 12/19/2011
Attorney Docket No. 1104-111C
For: **HIGH-SPEED WAN TO WIRELESS LAN GATEWAY**

Examiner: TBD
Art Unit: 2465

Mail Stop Amendment
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

PRELIMINARY AMENDMENT

The Applicants offer the following amendments and remarks. If any fees are required in association with this response, the Director is hereby authorized to charge them to Deposit Account 50-1732, and consider this a petition therefor.

In the Claims:

1. (Currently Amended) A gateway interconnecting a Wide Area Network (WAN) to a lower speed ~~Wireless~~ Local Area Network (LAN) ~~(WLAN)~~ comprising:

an adaptable cross-layer offload engine;

a data cache associated with the offload engine;

a network interface communicatively coupling the offload engine to the WAN and providing a first data rate; and

~~a wireless~~ an interface associated with the offload engine and adapted to communicate with a plurality of user devices within the LAN ~~(WLAN)~~, the ~~wireless~~ interface providing a second data rate that is less than the first data rate of the network interface;

wherein the offload engine is adapted to:

receive incoming data from the WAN via the network interface at the first data rate;

store the incoming data in the data cache; and

transmit the incoming data from the data cache to a corresponding one of the plurality of user devices in the LAN ~~(WLAN)~~ via the ~~wireless~~ interface at the second data rate.

2. (Original) The gateway of claim 1 wherein the offload engine comprises a number of protocol stack layers from a protocol stack of the gateway and is implemented in a cross-layer architecture enabling communication between non-adjacent layers in the protocol stack.

3. (Original) The gateway of claim 1 wherein the network interface is coupled to the WAN via a Fiber-to-the-Home (FTTH) connection.

4. (Currently Amended) The gateway of claim 1 wherein the ~~wireless~~ interface operates according to one of the plurality of IEEE 802.11 standards.

5. (Original) The gateway of claim 1 wherein the first data rate provided by the network interface is at least 1 Gigabit per second (Gbps).

6. (Currently Amended) The gateway of claim 5 wherein the second data rate provided by the LAN ~~WLAN~~ is less than or equal to 500 Megabits per second (Mbps).

7. (Currently Amended) The gateway of claim 1 further comprising a rule check engine adapted to inspect the incoming data from the WAN based upon at least one rule prior to transmitting the incoming data to the corresponding one of the plurality of user devices in the LAN ~~WLAN~~.

8. (Original) The gateway of claim 7 wherein the rule check engine performs a stateful inspection of the incoming data.

9. (Original) The gateway of claim 7 wherein the rule check engine performs a stateless inspection of the incoming data.

10. (Original) The gateway of claim 7 wherein the at least one rule comprises at least one intrusion detection rule for detecting malicious network traffic.

11. (Original) The gateway of claim 7 wherein the at least one rule comprises at least one Digital Rights Management (DRM) rule.

12. (Original) The gateway of claim 12 further comprising a DRM function initiated by the rule check engine based on the at least one DRM rule.

13. (Currently Amended) The gateway of claim 12 wherein:

the rule check engine is further adapted to inspect the incoming data based on the at least one DRM rule to identify data to be processed by the DRM function and initiate the DRM function for the identified data; and

the DRM function is adapted to encode the identified data such that encoded data is transmitted to the corresponding one of the plurality of user devices within the LAN ~~WLAN~~, and provide license keys for decoding the encoded data to desired ones of the plurality of user devices having permission to consume the encoded data.

14. (Currently Amended) The gateway of claim 7 wherein the at least one rule comprises at least one content rule identifying a type of content to block from entering the LAN ~~WLAN~~.

15. (Original) The gateway of claim 1 further comprising a file format conversion function adapted to convert the incoming data that is in a first file format to a second file format having lesser bandwidth requirements.

16. (Currently Amended) The gateway of claim 1 further comprising a conversion function adapted to convert the incoming data corresponding to a media file having a first quality to a media file having a lesser quality, thereby reducing bandwidth requirements for transferring the media file over the LAN ~~WLAN~~.

17. (Currently Amended) The gateway of claim 1 further comprising a rule check engine adapted to:

inspect the incoming data to identify data in a specified file format; and

initiate a file format conversion function adapted to convert the identified data to a new file format having lesser bandwidth requirements prior to transmission of the identified data over the LAN ~~WLAN~~.

18. (Currently Amended) The gateway of claim 1 further comprising a rule check engine adapted to:

inspect the incoming data to identify data corresponding to a media file in a specified file format; and

initiate a conversion function adapted to reduce a quality of the media file prior to transmission of the identified data over the LAN ~~WLAN~~.

19. (Currently Amended) The gateway of claim 1 wherein the offload engine is further adapted to:

receive outgoing data from one of the plurality of user devices within the LAN ~~WLAN~~ at the second data rate provided by the ~~wireless~~ interface;

buffer the outgoing data in the data cache; and

transmit the outgoing data from the data cache to a desired end point via the network interface at the first data rate of the network interface.

20. (Original) The gateway of claim 19 further comprising:

a rule check engine adapted to inspect the outgoing data to identify data desired to be encoded prior to transmission over the WAN; and

a Digital Rights Management (DRM) encoding function adapted to encode the identified data prior to transmission over the WAN.

21. (Currently Amended) A method of interconnecting a Wide Area Network (WAN) and a lower speed ~~Wireless~~ Local Area Network (LAN) ~~(WLAN)~~ comprising:

receiving incoming data from the WAN at a first data rate;

offloading the incoming data to a data cache; and

transmitting the incoming data from the data cache to a corresponding one of a plurality of user devices within the LAN ~~WLAN~~ at a second data rate of the LAN ~~WLAN~~ that is less than the first data rate of the WAN.

22. (Original) The method of claim 21 wherein transmitting the incoming data from the data cache comprises transmitting the incoming data from the data cache according to an adaptable cross-layering scheme.

23. (Original) The method of claim 21 wherein receiving the incoming data comprises receiving the incoming data from the WAN via a Fiber-to-the-Home (FTTH) connection.

24. (Currently Amended) The method of claim 21 further comprising inspecting the incoming data from the WAN in the data cache based upon at least one rule prior to transmitting the incoming data to the corresponding one of the plurality of user devices in the LAN ~~WLAN~~.

25. (Currently Amended) The method of claim 21 further comprising:

inspecting the incoming data in the data cache based on at least one Digital Rights Management (DRM) rule to identify data to be processed by a DRM function;

encode the identified data using the DRM function such that the encoded data is transmitted to the corresponding one of the plurality of user devices within the LAN ~~WLAN~~; and

providing license keys for decoding the encoded data to desired ones of the plurality of user devices having permission to consume the encoded data.

26. (Currently Amended) The method of claim 21 further comprising:

inspecting the incoming data to identify data in a specified file format;

converting the identified data to a new file format having lesser bandwidth requirements; and

transmitting the identified data in the new file format to the corresponding one of the plurality of user devices within the LAN ~~WLAN~~.

27. (Currently Amended) The method of claim 21 further comprising:

inspecting the incoming data to identify data corresponding to a media file in a specified file format;

reducing a quality of the media file, thereby reducing bandwidth requirements of the media file; and

transmitting the reduced quality media file to the corresponding one of the plurality of user devices in the LAN ~~WLAN~~.

28. (Currently Amended) A method of interconnecting a Wide Area Network (WAN) and a lower speed ~~Wireless~~ Local Area Network (LAN) ~~(WLAN)~~ comprising:

receiving outgoing data from one of a plurality of user devices within the LAN ~~WLAN~~ at a first data rate;

buffering the outgoing data in a data cache; and

transmitting the outgoing data from the data cache to a desired end point via the WAN at a second data rate greater than the first data rate of the LAN ~~WLAN~~.

29. (Original) The method of claim 28 further comprising:

inspecting the outgoing data to identify data desired to be encoded prior to transmission over the WAN; and

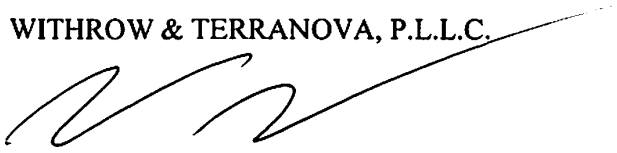
encoding the identified data prior to transmitting the identified data to the desired end point via the WAN.

REMARKS

The Applicant provides the following remarks to accompany the amendments noted above. Claims 1-29 were previously pending. The Applicant had amended claims 1, 4, 6, 7, 13, 14, 16-19, 21, and 24-28 as noted above. The Applicant submits that no new matter has been added.

The present application is now in a condition for allowance and such action is respectfully requested. The Examiner is encouraged to contact the Applicants' representative regarding any remaining issues in an effort to expedite allowance and issuance of the present application.

Respectfully submitted,
WITHROW & TERRANOVA, P.L.L.C.

By: 

Anthony J. Josephson
Registration No. 45,742
100 Regency Forest Drive, Suite 160
Cary, NC 27518
Telephone: (919) 238-2300

Date: June 14, 2012
Attorney Docket: 1104-111C

Electronic Acknowledgement Receipt

EFS ID:	13013859
Application Number:	13329992
International Application Number:	
Confirmation Number:	3088
Title of Invention:	HIGH-SPEED WAN TO WIRELESS LAN GATEWAY
First Named Inventor/Applicant Name:	Gregory Morgan Evans
Customer Number:	74548
Filer:	Benjamin Withrow/Rebecca MacDermut
Filer Authorized By:	Benjamin Withrow
Attorney Docket Number:	1104-111C
Receipt Date:	14-JUN-2012
Filing Date:	19-DEC-2011
Time Stamp:	13:40:20
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		1104-111C_Preliminary_Amendment_06-14-12.pdf	244147 0d356286833fb2ddbdbecbd312ea8b72740b257d	yes	8

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Preliminary Amendment	1	1
	Claims	2	7
	Applicant Arguments/Remarks Made in an Amendment	8	8
Warnings:			
Information:			
	Total Files Size (in bytes):	244147	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Electronic Acknowledgement Receipt

EFS ID:	16352260
Application Number:	13329992
International Application Number:	
Confirmation Number:	3088
Title of Invention:	HIGH-SPEED WAN TO WIRELESS LAN GATEWAY
First Named Inventor/Applicant Name:	Gregory Morgan Evans
Customer Number:	74548
Filer:	Benjamin Withrow/Whitney Meeks
Filer Authorized By:	Benjamin Withrow
Attorney Docket Number:	1104-111C
Receipt Date:	18-JUL-2013
Filing Date:	19-DEC-2011
Time Stamp:	13:59:55
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Form (SB08)	11104-111C_IDS_7-18-13.pdf	612279 51706eff510c69e4269882dcd958d97577e79b9e	no	4

Warnings:	
Information:	

A U.S. Patent Number Citation or a U.S. Publication Number Citation is required in the Information Disclosure Statement (IDS) form for autoloading of data into USPTO systems. You may remove the form to add the required data in order to correct the Informational Message if you are citing U.S. References. If you chose not to include U.S. References, the image of the form will be processed and be made available within the Image File Wrapper (IFW) system. However, no data will be extracted from this form. Any additional data such as Foreign Patent Documents or Non Patent Literature will be manually reviewed and keyed into USPTO systems.

2	Non Patent Literature	802_11e-2005.pdf	1610820 27ca11a493537b874f4fe43089e39f33f132c303	no	211

Warnings:

The page size in the PDF is too large. The pages should be 8.5 x 11 or A4. If this PDF is submitted, the pages will be resized upon entry into the Image File Wrapper and may affect subsequent processing

Information:

Total Files Size (in bytes):	2223099

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/329,992	12/19/2011	Gregory Morgan Evans	1104-111C	3088

74548 7590 08/30/2013

FlashPoint Technology and Withrow & Terranova
100 Regency Forest Drive
Suite 160
Cary, NC 27518

EXAMINER	
WONG, WARNER	
ART UNIT	PAPER NUMBER
2469	

MAIL DATE	DELIVERY MODE
08/30/2013	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Applicant-Initiated Interview Summary	**Application No.** 13/329,992	**Applicant(s)** EVANS, GREGORY MORGAN	
	Examiner WARNER WONG	**Art Unit** 2469	

All participants (applicant, applicant's representative, PTO personnel):

(1) *WARNER WONG*. (3)_____.

(2) *Tony Josephson*. (4)_____.

Date of Interview: *23 August 2013*.

Type: ☒ Telephonic ☐ Video Conference
☐ Personal [copy given to: ☐ applicant ☐ applicant's representative]

Exhibit shown or demonstration conducted: ☐ Yes ☐ No.
If Yes, brief description: _____.

Issues Discussed ☐101 ☐112 ☐102 ☒103 ☐Others
(For each of the checked box(es) above, please describe below the issue and detailed description of the discussion)

Claim(s) discussed: *1*.

Identification of prior art discussed: *Morris (US 2009/0067328) and Karlsen (US 2004/025651)*.

Substance of Interview
(For each issue discussed, provide a detailed description and indicate if agreement was reached. Some topics may include: identification or clarification of a reference or a portion thereof, claim interpretation, proposed amendments, arguments of any applied references etc...)

Applicant and Examiner exchanges interpretations of how Morris and Karlsen can or cannot fulfill Claim 1's limitations. Specifically, Applicant asserts that claim 1 sufficiently requires that WAN caching and that Karlsen (namely para. 31), fails to describe "transmit the incoming data from the data cache to the corresponding one of the plurality of user device in the WLAN via the wireless interface at the second data rate" wherein second data rate < first data rate. The Examiner attests that the Morris reference fulfills all such claim limitations, except that second data rate < first data rate (agreed by Applicant that this is a typical prior art scenario where LAN data rate < WAN data rate. The Examiner brought the 2nd reference Karlsen, also comprising gateway, to fulfill limitation where WAN data rate < LAN data rate .

Applicant recordation instructions: The formal written reply to the last Office action must include the substance of the interview. (See MPEP section 713.04). If a reply to the last Office action has already been filed, applicant is given a non-extendable period of the longer of one month or thirty days from this interview date, or the mailing date of this interview summary form, whichever is later, to file a statement of the substance of the interview

Examiner recordation instructions: Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

☐ Attachment

/Warner Wong/ Primary Examiner, Art Unit 2469	

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record
A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews
Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.
All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:
- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:
1) A brief description of the nature of any exhibit shown or any demonstration conducted,
2) an identification of the claims discussed,
3) an identification of the specific prior art discussed,
4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
5) a brief identification of the general thrust of the principal arguments presented to the examiner,
   (The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
6) a general indication of any other pertinent matters discussed, and
7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Gregory M. Evans
Serial No. 13/329,992
Filed: 12/19/2011
Attorney Docket No. 1104-111C/P367C
For: **HIGH-SPEED WAN TO WIRELESS LAN GATEWAY**

Examiner: Warner Wong
Art Unit: 2469

Mail Stop Amendment
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

RESPONSE TO THE OFFICE ACTION MAILED JUNE 20, 2013

In response to the Office Action mailed June 20, 2013, the Applicant offers the following amendments and remarks. The Applicants submit herewith $200.00 to cover the fees associated with a one-month Extension of Time and request that this payment be considered a petition for a one-month Extension of Time. The Applicants also submit $560.00 to cover the fees associated with presenting seven new claims. If any additional fees are required in association with this response, the Director is hereby authorized to charge them to Deposit Account 50-1732, and consider this a petition therefor.

In the Claims:

1. (Currently Amended) A gateway interconnecting a first network ~~Wide Area Network (WAN)~~ to a second network ~~lower speed Local Area Network (LAN)~~ comprising:

an ~~adaptable cross-layer~~ offload engine;

a data cache associated with the offload engine;

a network interface communicatively coupling the offload engine to the first network [[WAN]] and providing a first data rate; and

an interface associated with the offload engine and adapted to communicate with a plurality of user devices within the second network [[LAN]], the interface providing a second data rate that is less than the first data rate of the network interface;

wherein the offload engine is adapted to:

receive content ~~incoming data~~ from the first network [[WAN]] via the network interface at the first data rate;

store the content ~~incoming data~~ in the data cache such that the first data rate is supported by the gateway; and

transmit the content ~~incoming data~~ from the data cache to a corresponding one of the plurality of user devices in the second network [[LAN]] via the interface at the second data rate.

2. (Original) The gateway of claim 1 wherein the offload engine comprises a number of protocol stack layers from a protocol stack of the gateway and is implemented in a cross-layer architecture enabling communication between non-adjacent layers in the protocol stack.

3. (Currently Amended) The gateway of claim 1 wherein the network interface is coupled to the second network [[WAN]] via a Fiber-to-the-Home (FTTH) connection.

4. (Previously Presented) The gateway of claim 1 wherein the interface operates according to one of the plurality of IEEE 802.11 standards.

5. (Original) The gateway of claim 1 wherein the first data rate provided by the network interface is at least 1 Gigabit per second (Gbps).

6. (Currently Amended) The gateway of claim 5 wherein the second data rate provided by the second network [[LAN]] is less than or equal to 500 Megabits per second (Mbps).

7. (Currently Amended) The gateway of claim 1 further comprising a rule check engine adapted to inspect the content ~~incoming data~~ from the first network [[WAN]] based upon at least one rule prior to transmitting the content ~~incoming data~~ to the corresponding one of the plurality of user devices in the second network [[LAN]].

8. (Currently Amended) The gateway of claim 7 wherein the rule check engine performs a stateful inspection of the content ~~incoming data~~.

9. (Currently Amended) The gateway of claim 7 wherein the rule check engine performs a stateless inspection of the content ~~incoming data~~.

10. (Original) The gateway of claim 7 wherein the at least one rule comprises at least one intrusion detection rule for detecting malicious network traffic.

11. (Original) The gateway of claim 7 wherein the at least one rule comprises at least one Digital Rights Management (DRM) rule.

12. (Currently Amended) The gateway of claim 11 [[12]] further comprising a DRM function initiated by the rule check engine based on the at least one DRM rule.

13. (Currently Amended) The gateway of claim 12 wherein:

the rule check engine is further adapted to inspect the content ~~incoming data~~ based on the at least one DRM rule to identify data to be processed by the DRM function and initiate the DRM function for the identified data; and

the DRM function is adapted to encode the identified data such that encoded data is transmitted to the corresponding one of the plurality of user devices within the second network [[LAN]], and provide license keys for decoding the encoded data to desired ones of the plurality of user devices having permission to consume the encoded data.

14. (Currently Amended) The gateway of claim 7 wherein the at least one rule comprises at least one content rule identifying a type of content to block from entering the second network [[LAN]].

15. (Currently Amended) The gateway of claim 1 further comprising a file format conversion function adapted to convert the content ~~incoming data~~ that is in a first file format to a second file format having lesser bandwidth requirements.

16. (Currently Amended) The gateway of claim 1 further comprising a conversion function adapted to convert the content ~~incoming data~~ corresponding to a media file having a first quality to a media file having a lesser quality, thereby reducing bandwidth requirements for transferring the media file over the second network [[LAN]].

17. (Currently Amended) The gateway of claim 1 further comprising a rule check engine adapted to:

inspect the content ~~incoming data~~ to identify data in a specified file format; and

initiate a file format conversion function adapted to convert the content ~~incoming data~~ to a new file format having lesser bandwidth requirements prior to transmission of the identified data over the second network [[LAN]].

18. (Currently Amended) The gateway of claim 1 further comprising a rule check engine adapted to:

inspect the content ~~incoming data~~ to identify data corresponding to a media file in a specified file format; and

initiate a conversion function adapted to reduce a quality of the media file prior to transmission of the identified data over the second network [[LAN]].

19. (Currently Amended) The gateway of claim 1 wherein the offload engine is further adapted to:

receive outgoing data from one of the plurality of user devices within the second network [[LAN]] at the second data rate provided by the interface;

buffer the outgoing data in the data cache; and

transmit the outgoing data from the data cache to a desired end point via the network interface at the first data rate of the network interface.

20. (Currently Amended) The gateway of claim 19 further comprising:

a rule check engine adapted to inspect the outgoing data to identify data desired to be encoded prior to transmission over the first network [[WAN]]; and

a Digital Rights Management (DRM) encoding function adapted to encode the identified data prior to transmission over the first network [[WAN]].

21. (Currently Amended) A method of interconnecting a first network ~~Wide Area Network (WAN)~~ and a second network ~~lower speed Local Area Network (LAN)~~ comprising:

receiving content ~~incoming data~~ from the first network [[WAN]] at a first data rate;

offloading the content ~~incoming data~~ to a data cache; and

transmitting the content ~~incoming data~~ from the data cache to a corresponding one of a plurality of user devices within the second network [[LAN]] at a second data rate of the second network [[LAN]] that is less than the first data rate of the first network [[WAN]], wherein the content is offloaded to the data cache such that the first and second data rates are supported.

22. (Currently Amended) The method of claim 21 wherein transmitting the content ~~incoming data~~ from the data cache comprises transmitting the content ~~incoming data~~ from the data cache according to an adaptable cross-layering scheme.

23. (Currently Amended) The method of claim 21 wherein receiving the content ~~incoming data~~ comprises receiving the content ~~incoming data~~ from the second network [[WAN]] via a Fiber-to-the-Home (FTTH) connection.

24. (Currently Amended) The method of claim 21 further comprising inspecting the content ~~incoming data~~ from the second network [[WAN]] in the data cache based upon at least one rule prior to transmitting the content ~~incoming data~~ to the corresponding one of the plurality of user devices in the second network [[LAN]].

25. (Currently Amended) The method of claim 21 further comprising:

inspecting the content ~~incoming data~~ in the data cache based on at least one Digital Rights Management (DRM) rule to identify data to be processed by a DRM function;

encode the identified data using the DRM function such that the encoded data is transmitted to the corresponding one of the plurality of user devices within the second network [[LAN]]; and

providing license keys for decoding the encoded data to desired ones of the plurality of user devices having permission to consume the encoded data.

26. (Currently Amended) The method of claim 21 further comprising:

inspecting the content ~~incoming data~~ to identify data in a specified file format;

converting the identified data to a new file format having lesser bandwidth requirements; and

transmitting the identified data in the new file format to the corresponding one of the plurality of user devices within the second network [[LAN]].

27. (Currently Amended) The method of claim 21 further comprising:

inspecting the content ~~incoming data~~ to identify data corresponding to a media file in a specified file format;

reducing a quality of the media file, thereby reducing bandwidth requirements of the media file; and

transmitting the reduced quality media file to the corresponding one of the plurality of user devices in the second network [[LAN]].

28-29. (Cancelled).

30. (New) The gateway of claim 1 wherein the first network is a Wide Area Network (WAN).

31. (New) The gateway of claim 1 wherein the second network is a Local Area Network (LAN).

32. (New) The gateway of claim 21 wherein the first network is a Wide Area Network (WAN).

33. (New) The gateway of claim 21 wherein the second network is a Local Area Network (LAN).

34. (New) A gateway device comprising:

a first interface for receiving content at a first data rate in a first format from a first network;

a data cache for storing the content;

a rules check engine for determining Digital Rights Management (DRM) rules for the content;

a format conversion function for processing the content from the first format to a second format having a different data rate requirement;

a DRM encoder for encoding the converted content for authorized devices of a second network; and

a second interface for transmitting the encoded content over the second network.

35. (New) The gateway of claim 34 wherein the first network is a Wide Area Network (WAN).

36. (New) The gateway of claim 34 wherein the second network is a Local Area Network (LAN).

37. (New) The gateway of claim 36 wherein the LAN is a Wireless Local Area Network (WLAN).

38. (New) The gateway of claim 37 wherein the WLAN operates to one of the 802.11 standards.

REMARKS

The Applicants have carefully reviewed the Office Action mailed June 20, 2013 (hereinafter "Office Action") and offer the following remarks to accompany the above amendments.

Initially, the Applicant wishes to thank Examiner Wong for taking the time to speak with the Applicants' representative, Tony Josephson, on August 23, 2013. During the Examiner interview, the amendments noted above along with the references cited in the Office Action were discussed. Importantly, Examiner Wong kindly pointed out that, as amended, the claims overcome the rejections under 35 U.S.C. § 103.

Moreover, the Applicants thank the Patent Office for indicating that claims 13 and 25 include allowable subject matter. However, the Applicants will refrain from amending the independent claims to include the allowable subject matter of claims 13 and 25 at this time. Nonetheless, the Applicants reserve the right to make such amendments at a later time.

Claims 1-27 were rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-21 of U.S. Patent No. 8,102,863. The Applicant will address the rejection once the pending claims are indicated as being allowable. Moreover, the Applicant reserves the right to file a Terminal Disclaimer or otherwise address the rejection at a later time.

Claims 1, 4-10, 14-19, 21, 24, and 26-29 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application Publication No. 2009/0067328 A1 to *Morris et al.* (hereinafter "*Morris*") in view of U.S. Patent Application Publication No. 2004/0252651 A1 to *Karlsen et al.* (hereinafter "*Karlsen*"). Claims 28 and 29 were cancelled, thereby rendering the rejection of these claims moot. Claims 2 and 22 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Morris* in view of *Karlsen* and further in view of U.S. Patent No. 5,278,834 to *Mazzola*. Claims 3 and 23 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Morris* in view of *Karlsen* and further in view of U.S. Patent No. 5,818,838 to *Backes et al.* Claims 11, 12, and 20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Morris* in view of *Karlsen* and further in view of U.S. Patent Application Publication No. 2009/0133116 A1 to *Waisbard*. The Applicant respectfully traverses the rejections. As noted above, claims 1 and 21 have been amended to include subject matter, which Examiner Wong kindly pointed out

is allowable over the cited references. Therefore, claims 1-12, 14-24, 26, and 27 are in a condition for allowance and the Applicant requests that the rejections be withdrawn.

In addition, the Applicant has added new claims 30-33, which respectively depend from either claim 1 or claim 21. As noted above, claims 1 and 21 are patentable over the cited references. Therefore, claims 30-33 are also patentable over the cited references.

The Applicants have also added new independent claim 34 along with claims 35-38, which depend from claim 34. The Applicant submits that claim 34 includes subject matter that is not disclosed in any of the references cited in the Office Action. In particular, claim 34 recites a gateway device comprising "a first interface for receiving content at a first data rate in a first format from a first network," "a data cache for storing the content," and "a rules check engine for determining Digital Rights Management (DRM) rules for the content." Claim 34 also recites "a format conversion function for processing the content from the first format to a second format having a different data rate requirement," "a DRM encoder for encoding the converted content for authorized devices of a second network," and "a second interface for transmitting the encoded content over the second network." The Applicant submits that these features render claim 34 patentable over the cited references. Moreover, claims 35-38, which depend from claim 34, are patentable for at least the same reasons along with the novel features recited therein.

The present application is now in a condition for allowance and such action is respectfully requested. The Examiner is encouraged to contact the Applicant's representative regarding any remaining issues in an effort to expedite allowance and issuance of the present application.

Respectfully submitted,
WITHROW & TERRANOVA, P.L.L.C.

By: 

Anthony J. Josephson
Registration No. 45,742
100 Regency Forest Drive, Suite 160
Cary, NC 27518
Telephone: (919) 238-2300

Date: October 21, 2013
Attorney Docket: 1104-111C

PTO/SB/22 (03-13)
Approved for use through 3/31/2013. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)

Docket Number (Optional): 1104-111C

Application Number: 13/329,992

Filed: 12/19/2011

For: HIGH-SPEED WAN TO WIRELESS LAN GATEWAY

Art Unit: 2469

Examiner: Warner Wong

This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above-identified application.

The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):

	Fee	Small Entity Fee	Micro Entity Fee	
☑ One month (37 CFR 1.17(a)(1))	$200	$100	$50	$ 200.00
☐ Two months (37 CFR 1.17(a)(2))	$600	$300	$150	$
☐ Three months (37 CFR 1.17(a)(3))	$1,400	$700	$350	$
☐ Four months (37 CFR 1.17(a)(4))	$2,200	$1,100	$550	$
☐ Five months (37 CFR 1.17(a)(5))	$3,000	$1,500	$750	$

☐ Applicant asserts small entity status. See 37 CFR 1.27.

☐ Applicant certifies micro entity status. See 37 CFR 1.29.
Form PTO/SB/15A or B or equivalent must either be enclosed or have been submitted previously.

☐ A check in the amount of the fee is enclosed.

☐ Payment by credit card. Form PTO-2038 is attached.

☐ The Director has already been authorized to charge fees in this application to a Deposit Account.

☑ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number 50-1732.

☑ Payment made via EFS-Web.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

I am the

☐ applicant/inventor.

☐ assignee of record of the entire interest. See 37 CFR 3.71. 37 CFR 3.73(b) statement is enclosed (Form PTO/SB/96).

☑ attorney or agent of record. Registration number 45,742.

☐ attorney or agent acting under 37 CFR 1.34. Registration number _____.

Signature	October 21, 2013 (Date)
Anthony J. Josephson (Typed or printed name)	919.238.2300 (Telephone Number)

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. Submit multiple forms if more than one signature is required, see below*.

☑ * Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.136(a). The information is required to obtain or retain a benefit by the public, which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 6 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: **Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Electronic Patent Application Fee Transmittal

Application Number:	13329992
Filing Date:	19-Dec-2011
Title of Invention:	HIGH-SPEED WAN TO WIRELESS LAN GATEWAY
First Named Inventor/Applicant Name:	Gregory Morgan Evans
Filer:	Benjamin Withrow/Rebecca MacDermut
Attorney Docket Number:	1104-111C

Filed as Large Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Claims in Excess of 20	1202	7	80	560
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension - 1 month with $0 paid	1251	1	200	200
Miscellaneous:				
		Total in USD ($)		**760**

Electronic Acknowledgement Receipt	
EFS ID:	17182364
Application Number:	13329992
International Application Number:	
Confirmation Number:	3088
Title of Invention:	HIGH-SPEED WAN TO WIRELESS LAN GATEWAY
First Named Inventor/Applicant Name:	Gregory Morgan Evans
Customer Number:	74548
Filer:	Benjamin Withrow/Rebecca MacDermut
Filer Authorized By:	Benjamin Withrow
Attorney Docket Number:	1104-111C
Receipt Date:	21-OCT-2013
Filing Date:	19-DEC-2011
Time Stamp:	15:44:48
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	$760
RAM confirmation Number	2756
Deposit Account	501732
Authorized User	JOSEPHSON, ANTHONY J.
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees) Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)	

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees) Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees) Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)					
File Listing:					
Document Number	**Document Description**	**File Name**	**File Size(Bytes)/ Message Digest**	**Multi Part /.zip**	**Pages (if appl.)**
1		1104-111C_OA_Response_10-21-13.pdf	371705 008cbb7bd453b9ea7baebbce40338d41c6ac4ecf	yes	11
	Multipart Description/PDF files in .zip description				
	Document Description		**Start**	**End**	
	Amendment/Req. Reconsideration-After Non-Final Reject		1	1	
	Claims		2	8	
	Applicant Arguments/Remarks Made in an Amendment		9	11	
Warnings:					
Information:					
2	Extension of Time	1104-111C_EOT_10-21-13.pdf	60191 c6d6ebc1c481aec9d0c58d32bec3d62e68e009c2	no	1
Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	32698 60eae02f30bc9039773d96a871ae6af400ea37de	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	464594		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 13/329,992	Filing Date 12/19/2011	☐ To be Mailed

ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

	(Column 1)	(Column 2)		
FOR	NUMBER FILED	NUMBER EXTRA	RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

		(Column 1)		(Column 2)	(Column 3)		
	10/21/2013	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
AMENDMENT	Total (37 CFR 1.16(i))	* 36	Minus	** 29	= 7	X $80 =	560
	Independent (37 CFR 1.16(h))	* 3	Minus	***3	= 0	X $420 =	0
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
						TOTAL ADD'L FEE	**560**

		(Column 1)		(Column 2)	(Column 3)		
		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
AMENDMENT	Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =	
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
						TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
/DEBRA SAVOY/

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/329,992	12/19/2011	Gregory Morgan Evans	1104-111C	3088

74548 7590 12/30/2013

FlashPoint Technology and Withrow & Terranova
100 Regency Forest Drive
Suite 160
Cary, NC 27518

EXAMINER	
WONG, WARNER	
ART UNIT	PAPER NUMBER
2469	

MAIL DATE	DELIVERY MODE
12/30/2013	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 13/329,992	Applicant(s) EVANS, GREGORY MORGAN	
	Examiner WARNER WONG	Art Unit 2469	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 October 2013*.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

5)☒ Claim(s) *1-38* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *1-38* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some * c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Interim copies:

a)☐ All b)☐ Some c)☐ None of the: Interim copies of the priority documents have been received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

4) ☐ Other: _____.

The present application is being examined under the pre-AIA first to invent provisions.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 10/21/2013 have been fully considered but they are not persuasive.

Upon entry of the amendments & new independent & dependent claims 34+, the Examiner revisited the current prior art and found that "store the content in the data cache such that the first data rate is supported by the gateway" was indeed supported by the secondary reference Karlsen - para. 5, GW's functionality is to buffer the data, & innovatively downspeeding the data rate with translation & repacketing data to a reduced number of channels, para. 23), also underlined below in the Office Action.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140

F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-27 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1- of U.S. Patent No. 8,102,863 (herein referred to as '863). Although the conflicting claims are not identical, they are not patentably distinct from each other because they are obvious subsets of the patented claims.

Regarding claim 1, '863 describes:

a gateway interconnecting a first network/Wide Area Network (WAN) to a lower speed second network/Wireless Local Area Network (WLAN) comprising:

an adaptable cross-layer offload engine;

a data cache associated with the offload engine;

a network interface communicatively coupling the offload engine to the WAN and providing a first data rate; and

a wireless interface associated with the offload engine and adapted to communicate with a plurality of user devices within the second network/WLAN, the wireless interface providing a second data rate that is less than the first data rate of the network interface; wherein the offload engine is adapted to:

receive incoming data from the first network/WAN via the network interface at the first data rate;

store the incoming data in the data cache; and

transmit the incoming data from the data cache to a corresponding one of the plurality of user devices in the WLAN via the wireless interface at the second data rate (claim 1).

Regarding claim 2, '863 further describes:

wherein the offload engine comprises a number of protocol stack layers from a protocol stack of the gateway and is implemented in a cross-layer architecture enabling communication between non-adjacent layers in the protocol stack (claim 2).

Regarding claim 3, '863 further describes:

wherein the network interface is coupled to the WAN via a Fiber-to-the-Home (FTTH) connection (claim 3).

Regarding claim 4, '863 further describes:

wherein the wireless interface operates according to one of the plurality of IEEE 802.11 standards (claim 4).

Regarding claim 5, ‘863 further describes:

wherein the first data rate provided by the network interface is at least 1 Gigabit per second (Gbps) (claim 5).

Regarding claim 6, ‘863 further describes:

wherein the second data rate provided by the WLAN is less than or equal to 500 Megabits per second (Mbps) (claim 6).

Regarding claim 7, ‘863 further describes:

further wherein the gateway further comprises:

a rule check engine adapted to inspect the incoming data from the WAN based upon at least one rule prior to transmitting the incoming data to the corresponding one of the plurality of user devices in the WLAN (claim 1).

Regarding claim 8, ‘863 further describes:

wherein the rule check engine performs a stateful inspection of the incoming data (claim 7).

Regarding claim 9, ‘863 further describes:

wherein the rule check engine performs a stateless inspection of the incoming data (claim 8).

Regarding claim 10, ‘863 further describes:

wherein the at least one rule further comprises at least one intrusion detection rule for detecting malicious network traffic (claim 9).

Regarding claim 11, ‘863 further describes:

the at least one rule comprises at least one Digital Rights Management (DRM) rule (claim 1).

Regarding claim 12, ‘863 further describes:

the DRM function initiated by the rule check engine based on the at least one DRM rule (claim 1).

Regarding claim 13, ‘863 further describes:

the rule check engine is adapted to inspect the incoming data based on the at least one DRM rule to identify data to be processed by a DRM function and initiate the DRM function for the identified data; and

the DRM function being adapted to encode the identified data such that encoded data is transmitted to the corresponding one of the plurality of user devices within the WLAN, and provide license keys for decoding the encoded data to desired ones of the plurality of user devices having permission to consume the encoded data (claim 1).

Regarding claim 14, ‘863 further describes:

wherein the at least one rule further comprises at least one content rule identifying a type of content to block from entering the WLAN (claim 10).

Regarding claim 15, ‘863 further describes:

a file format conversion function adapted to convert the incoming data that is in a first file format to a second file format having lesser bandwidth requirements (claim 11).

Regarding claim 16, ‘863 further describes:

a conversion function adapted to convert the incoming data corresponding to a media file having a first quality to a media file having a lesser quality, thereby reducing bandwidth requirements for transferring the media file over the WLAN (claim 12).

Regarding claim 17, '863 further describes:

wherein the rule check engine is further adapted to: inspect the incoming data to identify data in a specified file format; and

initiate a file format conversion function adapted to convert the identified data to a new file format having lesser bandwidth requirements prior to transmission of the identified data over the WLAN (claim 13).

Regarding claim 18, '863 further describes:

wherein the rule check engine is further adapted to: inspect the incoming data to identify data corresponding to a media file in a specified file format; and

initiate a conversion function adapted to reduce a quality of the media file prior to transmission of the identified data over the WLAN (claim 14).

Regarding claim 19, '863 further describes:

wherein the offload engine is further adapted to:

receive outgoing data from one of the plurality of user devices within the WLAN at the second data rate provided by the wireless interface;

buffer the outgoing data in the data cache; and

transmit the outgoing data from the data cache to a desired end point via the network interface at the first data rate of the network interface (claim 15).

Regarding claim 20, '863 further describes:

the rule check engine is further adapted to inspect the outgoing data to identify data desired to be encoded prior to transmission over the WAN; and

the DRM function is further adapted to encode the identified data prior to transmission over the WAN (claim 16).

Regarding claim 21, '863 describes:

a method of interconnecting a Wide Area Network (WAN) and a lower speed Wireless Local Area Network (WLAN) comprising:

receiving incoming data from the WAN at a first data rate;

offloading the incoming data to a data cache;

transmitting the incoming data, including the encoded data, from the data cache to a corresponding one of a plurality of user devices within the WLAN at a second data rate of the WLAN that is less than the first data rate of the WAN (claim 17).

Regarding claim 22, '863 further describes:

wherein transmitting the incoming data from the data cache comprises transmitting the incoming data from the data cache according to an adaptable cross-layering scheme (claim 18).

Regarding claim 23, '863 further describes:

wherein receiving the incoming data comprises receiving the incoming data from the WAN via a Fiber-to-the-Home (FTTH) connection (claim 19).

Regarding claim 24, '863 further describes:

inspecting the incoming data to identify data corresponding to a media file in a specified file format; reducing a quality of the media file, thereby reducing bandwidth requirements of the media file; and transmitting the reduced quality media file to the corresponding one of the plurality of user devices in the WLAN (claim 21).

Regarding claim 25, '863 further describes:

inspect the incoming data from the WAN based upon at least one Digital Rights Management (DRM) rule to identify data to be processed by a DRM function;

encoding, by the DRM function, the identified data to provided encoded data; and

providing a license key for decoding the encoded data to the corresponding one of the plurality of user devices if the corresponding one of the plurality of user devices has permission to consume the encoded data. (claim 17).

Regarding claim 26, '863 further describes:

inspecting the incoming data to identify data in a specified file format;

converting the identified data to a new file format having lesser bandwidth requirements;

transmitting the identified data in the new file format to the corresponding one of the plurality of user devices within the WLAN (claim 20).

Regarding claim 27, '863 further describes:

inspecting the incoming data to identify data corresponding to a media file in a specified file format;

reducing a quality of the media file, thereby reducing bandwidth requirements of the media file; and

transmitting the reduced quality media file to the corresponding one of the plurality of user devices in the WLAN (claim 21).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 4-10, 14-19, 21, 24, and 26-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morris (US 2009/0067328) in view of Karlsen (US 2004/025651).

Regarding claim 1, Morris describes a gateway interconnecting a first network/Wide Area Network (WAN) to second network/Wireless Local Area Network (WLAN) (fig. 1 & abstract), comprising:

an adaptable cross-layer offload engine (para. 39, software-implemented protocol stack (cross-layer offload engine) for implementing the software program to handle the data traffic (load));

a data cache associated with the offload engine (para. 57, packet is buffered 522 in the appropriate queue for streaming in the gateway);

a network interface communicatively coupling the offload engine to the first network/WAN and providing a first data rate (fig. 3, WAN interface 309 connecting to

CPU 300 running protocol stack software program (offload engine), wherein WAN interface 301 operates in data rate different from WLAN interface 306, para. 18 & 59);

a wireless interface associated with the offload engine and adapted to communicate with a plurality of user devices within the second network/WLAN (fig. 3, WLAN interface 306 connecting to CPU 300 running protocol stack software program (offload engine), the wireless interface providing a second data rate

wherein the offload engine is adapted to:

receive content from the first network via the network interface at the first data rate (fig. 3, WAN interface 301 operates in data rate different from WLAN interface 306, para. 18 & 59);

store the content in the data cache (fig. 5 & para. 57, incoming packets are buffered 522); and

transmit the content from the data cache to a corresponding one of the plurality of user devices in the second network via the wireless interface at the second data rate (fig. 1 & abstract, handling data traffic between LAN's local computers and the WAN, where data rate differs between the WLAN and WAN interfaces, para. 18 & 59).

Morris fails to additionally explicitly describe:

first higher speed network/WAN is connected to a second lower speed network/WLAN, and first network interface operates at higher speed than second network interface.

store content in data cache such that the first data rate is supported by the gateway.

Karlsen also describes a gateway between internal and external networks (fig. 3 & para. 2-4, gateway 200 for communication between internal, enterprise network H.323 210 and external network ISDN-base H.320 214), further describing:

store content in data cache such that the first data rate is supported by the gateway (para. 5, GW's functionality is to buffer the data, & innovatively downspeeding the data rate with translation & repacketing data to a reduced number of channels, para. 23).

first higher speed network is connected to a second lower speed network, and first network interface operates at higher speed than second network interface (fig. 3 & para. 18 in view of abstract, external H.320 (higher speed WAN) network transmission at higher rate than internal H.323 (lower speed LAN) network).

It would have been obvious to one with ordinary skill in the art at the time of invention to specify that the WAN network 1 and wireless LAN network 2 of Morris to have data rates such that external network 1 WAN transmission is faster than the internal network 2 LAN transmission as in Karlsen.

The motivation for combining the teachings is that this provides a solution for downspeeding between such specified heterogeneous data-rate network (para. 21-23).

Regarding claim 4, Morris further describes:

The wireless interface operates according to one of the plurality of IEEE 802.11 standards (wireless LAN may use either 802.11b or 802.11g).

Regarding claim 5, Morris further describes:

the first data rate provided by the network interface is at least 1 Gigabit per second (Gbps) (para. 7, speed used may be 1 Gbps).

Regarding claim 6, Morris further describes:

the second data rate provided by the network interface is less than or equal to 500 Megabits per second (Mbps) (para. 7, speed used may be hundreds of Mbps).

Regarding claim 7, Morris further describes:

comprising a rule check engine adapted to inspect the incoming data from the first network/WAN based upon at least one rule prior to transmitting the content to the corresponding one of the plurality of user devices in the second network/WLAN (fig..1 & abstract, data traffic flows from WAN 102 to WLAN 112b will be evaluated using ALG rules in gateway 106, para. 47).

Regarding claim 8, Morris further describes:

the rule check engine performs a stateful inspection of the content (para. 47 & 49, predefined (stateful) rules in ALG may be used).

Regarding claim 9, Morris further describes:

the rule check engine performs a stateless inspection of the content (para. 47 & 49, user-configured overriding (stateless) rules in ALG may be used).

Regarding claim 10, Morris further describes:

the at least one rule comprises at least one intrusion detection rule for detecting malicious network traffic (fig. 1 & para. 47, gateway 108 comprising ALG packet processing rules is also implemented as firewall to intercept unauthorized WAN communication, para. 40).

Regarding claim 14, Morris further describes:

the at least one rule comprises at least one content rule identifying a type of content to block from entering the second network/WLAN (abstract & para. 6, multi-function gateway comprising firewall to block intercepted unauthorized WAN communications (type), para. 40).

Regarding claim 15, Morris and Karlsen combined already describe:

a second file format having lesser bandwidth requirements that a first file format (Karlsen, the H.323 format uses lower rate than H.320).

Morris further describes:

a file format conversion function adapted to convert the incoming data that is in a first file format to a second file format (para. 39, protocol module 314 performing protocol conversions from WAN to LAN).

Regarding claim 16, Morris and Karlsen combined further describe:

a conversion function adapted to convert the content corresponding to a media file having a first quality to a media file having a lesser quality (Karlsen, para. 18, gateway translates and repacks (converts) from higher rate H.320 to lower rate H.323 video (media) file stream, that quality of service (quality) cannot be guaranteed (lesser quality), para. 4).

Regarding claim 17, Morris further describes:

inspect the content to identify data in a specified file format (para. 53, packet header of analyzed for identified stream).

Morris and Karlsen combined further describe:

initiate a file format conversion function adapted to convert the identified data to a new file format having a lesser bandwidth requirements prior to transmission of the identified data over the second network/WLAN (Karlsen, para. 4 & 18, translating from higher rate H.320 to lower rate H.323 (format conversion) which will not be guaranteed the quality of service (quality) before forwarding).

Regarding claim 18, Morris further describes:

inspect the incoming data to identify data in a specified file format (para. 53, packet header of analyzed for identified stream).

Morris and Karlsen combined further describe:

initiate a conversion adapted to reduce a quality of the media file prior to transmission of the identified data over the second network/WLAN (Karlsen, para. 4 & 18, translating from higher rate H.320 to lower rate H.323 (format conversion) which will not be guaranteed the quality of service (quality) before forwarding).

Regarding claim 19, Morris further describes:

wherein the offload engine (fig. 1, gateway processing), is further adapted to:

receive outgoing data from one of the plurality of user devices within the second network/WLAN at the second data rate provided by the wireless interface;

buffer the outgoing data in the data cache; and

transmit the outgoing data from the data cache to a desired end point via the network interface at the first data rate of the network interface (claim 15).

Regarding claim 21, Morris describes a method of interconnecting a first network/Wide Area Network (WAN) to second network/Wireless Local Area Network (WLAN) (fig. 1 & abstract), comprising:

receiving content from the WAN at a first data rate (fig. 1 & abstract, gateway manages traffic between WAN 102 & WLAN 112b, where LAN speed differs from WAN);

offloading the content to a data cache ((para. 57, packet is buffered 522 in the appropriate queue for streaming in the gateway);

transmitting the content from the data cache to a corresponding one of a plurality of user devices within the WLAN at a second data rate (fig. 3, WLAN interface 306 connecting to CPU 300 running protocol stack software program (offload engine), the wireless interface providing a second data rate).

Morris fails to additionally explicitly describe:

first network/WAN is connected to a lower speed second network/WLAN, and first network/WAN interface operates at higher speed than second network/WLAN interface.

Karlsen also describes a gateway between internal and external networks (fig. 3 & para. 2-4, gateway 200 for communication between internal, enterprise network H.323 210 and external network ISDN-base H.320 214), further describing:

first network/WAN is connected to a lower speed second network/LAN, and first network/WAN interface operates at higher speed than second network/LAN interface

(fig. 3 & para. 18 in view of abstract, external H.320 (WAN) network transmission at higher rate than internal H.323 (LAN) network).

It would have been obvious to one with ordinary skill in the art at the time of invention to specify that the first network/WAN and second network/wireless LAN of Morris to have data rates such that external WAN transmission is faster than the internal LAN transmission as in Karlsen.

The motivation for combining the teachings is that this provides a solution for downspeeding between such specified heterogeneous data-rate network (para. 21-23).

Regarding claim 24, Morris further describes:

comprising a rule check engine adapted to inspect the incoming data from the first network/WAN based upon at least one rule prior to transmitting the incoming data to the corresponding one of the plurality of user devices in the second network/WLAN (fig..1 & abstract, data traffic flows from first network/WAN 102 to second network/WLAN 112b will be evaluated using ALG rules in gateway 106, para. 47).

Regarding claim 26, Morris further describes:

inspect the content to identify data in a specified file format (para. 53, packet header of analyzed for identified stream).

Morris and Karlsen combined further describe:

converting the identified data to a new file format having lesser bandwidth requirements, and transmitting the identified data in the new file format to the corresponding one of the plurality of user devices within the second network/WLAN (Karlsen, para. 4 & 18, translating from higher rate H.320 to lower rate H.323 (format

conversion) which will not be guaranteed the quality of service (quality) before forwarding).

Regarding claim 27, Morris further describes::

inspecting the content to identify data corresponding to a media file in a specified file format (para. 53, packet header of analyzed for identified stream).

Morris and Karlsen combined further describe

reducing a quality of the media file, thereby reducing bandwidth requirements of the media file, and transmitting the reduced quality media file to the corresponding one of the plurality of user devices in the second network/WLAN ((Karlsen, para. 18, gateway translates and repacks (converts) from higher rate H.320 to lower rate H.323 video (media) file stream, that quality of service (quality) cannot be guaranteed (lesser quality), para. 4).

Regarding claim 30, Morris further describes:

first network is a Wide Area Network (fig. 1 & abstract).

Regarding claim 31, Morris further describes:

second network is a Local Area Network (fig. 1 & abstract).

Regarding claim 32, Morris further describes:

first network is a Wide Area Network (fig. 1 & abstract).

Regarding claim 33, Morris further describes:

second network is a Local Area Network (fig. 1 & abstract).

4. Claims 2 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morris in view of Karlsen, and further in view of Mazzola (US 5,278,834).

Regarding claim 2, Morris and Karlsen combined fail to additionally explicitly describe:

wherein the offload engine comprises a number of protocol stack layers from a protocol stack of the gateway and is implemented in a cross-layer architecture enabling communication between non-adjacent layers in the protocol stack.

Mazzola also describes a processing node comprising a protocol stack (fig. 1, node 10 with stack 14a), further comprising:

wherein the offload engine comprises a number of protocol stack layers from a protocol stack of the gateway and is implemented in a cross-layer architecture enabling communication between non-adjacent layers in the protocol stack (abstract, processing the data via protocol stack is done by inter-layer passing (cross-layer architecture).

It would have been obvious to one with ordinary skill in the art at the time of invention by applicant to specify that the protocol stack of Morris indicates a cross-layer architecture as in Mazzola.

The motivation for combining the teachings is that this enable vertical communications between adjacent layers of a particular system (Mazzola, col. 1, lines 50-53).

Regarding claim 22, Morris and Karlsen combined fail to additionally explicitly describe:

transmitting the incoming data from the data cache according to an adaptable cross-layering scheme.

Mazzola also describes a processing node comprising a protocol stack (fig. 1, node 10 with stack 14a), further comprising:

transmitting the incoming data from the data cache according to an adaptable cross-layering scheme (abstract, processing the transmission data via protocol stack is done by inter-layer passing as needed (adaptable cross-layer scheme).

It would have been obvious to one with ordinary skill in the art at the time of invention by applicant to specify that the protocol stack of Morris indicates a cross-layer architecture as in Mazzola.

The motivation for combining the teachings is that this enable vertical communications between adjacent layers of a particular system (Mazzola, col. 1, lines 50-53).

5. Claims 3 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morris in view of Karlsen, and further in view of Backes (US 5,818,838).

Regarding claim 3, Morris and Karlsen combined fail to additionally explicitly describe:

the network interface is coupled to the second network via Fiber to the Home (FTTH) connection.

Backes also describes a gateway connecting WAN to LAN (fig. 1, bridge 63), further comprising:

the network interface is coupled to the WAN via Fiber to the Home (FTTH) connection (fig. 1 & col. 2, lines 4-7, network interface segments from second network of WAN to bridge to premise 70a-e 71a-e, 72a-e & 73a is fiber, thus being FTTP (Fiber to the Premise) or FTTH).

It would have been obvious to one with ordinary skill in the art at the time of invention to specify that the network of Morris be implemented using FTTH as in Backes.

The motivation for combining the teachings is that this enables a general concept in using a different protocol for connection between LAN & WAN internetworking (Backes, col. 1, lines 20-23).

Regarding claim 23, Morris and Karlsen combined fail to additionally explicitly describe:

receiving the incoming data from the WAN via Fiber to the Home (FTTH) connection.

Backes also describes a gateway connecting WAN to LAN (fig. 1, bridge 63), further comprising:

receiving the incoming data from the WAN via Fiber to the Home (FTTH) connection (fig. 1 & col. 2, lines 4-7, network interface segments from WAN to bridge to premise 70a-e 71a-e, 72a-e & 73a is fiber, thus being FTTP (Fiber to the Premise) or FTTH).

It would have been obvious to one with ordinary skill in the art at the time of invention to specify that the network of Morris be implemented using FTTH as in Backes.

The motivation for combining the teachings is that this enables a general concept in using a different protocol for connection between LAN & WAN internetworking (Backes, col. 1, lines 20-23).

6. Claims 11-12, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morris in view of Karlsen, and further in view of Waisbard (US 2009/0133116).

Regarding claim 11, Morris describes gateway to incorporate various functionality such as firewall, etc., but fails to additionally describe:

the at least one rule comprises at least one Digital Rights Management (DRM) rule.

Waisbard also describes a system/apparatus comprising a rights validator 10 (fig. 1), further describing:

the at least one rule comprises at least one Digital Rights Management (DRM) rule (para. 5, DRM rules used by digital rights validation module of the validator).

It would have been obvious to one with ordinary skill in the art at the time of invention by applicant to specify that the multi-function gateway of Morris to also comprise a validator with digital rights validation using DRM rules as in Waisbard.

The motivation for combining the teachings is that this enables processing to ensure allow or prevent use of DRM-protected time information (Waisbard, para. 4-5).

Regarding claim 12, Morris, Karlsen and Waisbard combined further describes:

Aa DRM function initiated by the rule check engine based on the at least one DRM rule (Waisbard, para. 5, based on DRM rules, DRM functions to either allow or prevent access of processing of time information).

Regarding claim 20, Morris already describes protocol module for

a rule check engine is further adapted to inspect the outgoing data to identify data desired to be encoded prior to transmission over the first network/WAN (para. 39, protocol module parses data packets for protocol conversions from various protocols supported, para. 32).

Morris fails to additionally explicitly describe:

a Digital Rights Management (DRM) DRM encoding function adapted to encode the identified data prior to transmission over the first network/WAN;

Waisbard also describes a system/apparatus comprising a rights validator 10 (fig. 1), further describing:

a Digital Rights Management (DRM) DRM encoding function adapted to encode the identified data prior to transmission over the first network/WAN (para. 71, update the code of the validated data).

It would have been obvious to one with ordinary skills in the art at time of invention to specify that the gateway of Morris to incorporate a DRM encoding function as per the system/apparatus of Waisbard.

The motivation for combining the teachings is that this enables processing to ensure allow or prevent use of DRM-protected time information (Waisbard, para. 4-5).

7. Claims 34-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morris in view of Waisbard.

Regarding claim 34, Morris describes a gateway device of interconnecting a Wide Area Network (WAN) and a Wireless Local Area Network (WLAN), comprising:

first interface for receiving content at the first data rate in a first format from a first network, and a second interface for transmitting the encoded content over the second network (fig. 3, WAN (first) interface 309 receives data content at data rate different from output WLAN interface 306, para. 18 & 59);

a data cache for storing the content (para. 57, packet is buffered 522 in the appropriate queue for streaming in the gateway);

a format conversion function for processing the content from the first format to a second format having a different data rate requirement (para. 39, protocol module 314 performing protocol conversions from WAN to LAN of different data rate).

Morris describes gateway to incorporate various functionality such as firewall, etc., but fails to additionally describe:

a rules check engine for determining Digital Rights Management (DRM) rules for the content;

a DRM encoder for encoding the converted content for authorized devices of a second network.

Waisbard also describes a system/apparatus comprising a rights validator 10 (fig. 1), further describing:

a rules check engine for determining Digital Rights Management (DRM) rules for the content (para. 5, DRM rules used by digital rights validation module of the validator),

a DRM encoder for encoding the converted content for authorized devices of a second network (para. 71, update the code of the validated data before output).

It would have been obvious to one with ordinary skill in the art at the time of invention by applicant to specify that the multi-function gateway of Morris to also comprise a validator with digital rights validation using DRM rules as in Waisbard.

The motivation for combining the teachings is that this enables processing to ensure allow or prevent use of DRM-protected time information (Waisbard, para. 4-5).

Regarding claim 35, Morris further describes:

first network is a Wide Area Network (fig. 1 & abstract).

Regarding claim 36, Morris further describes:

second network is a Local Area Network (fig. 1 & abstract).

Regarding claim 37, Morris further describes:

LAN is a Wireless Local Area Network (para. 32, LAN is a WLAN).

Regarding claim 38, Morris further describes:

WLAN operates to one of 802.11 standards (para. 32, WLAN operates one of 802.11 standards).

Allowable Subject Matter

8. Claims 13 and 25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The closest prior art, Morris and Karlsen combined, describes gateway between WLAN and WAN, where WAN bandwidth > LAN bandwidth, for buffering, file format converting, and forwarding data to/from WLAN and WAN, in combination, fail to render the above features obvious.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to WARNER WONG whose telephone number is (571)272-8197. The examiner can normally be reached on 6:30AM - 4:00PM, M-R.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ian Moore can be reached on (571) 272-3085. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Warner Wong
Primary Examiner
Art Unit 2469

/WARNER WONG/

Primary Examiner, Art Unit 2469

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13329992	EVANS, GREGORY MORGAN
	Examiner	Art Unit
	WARNER WONG	2469

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	06/14/2013	12/16/2013	12/16/2013						
	1	✓	✓	✓						
	2	✓	✓	✓						
	3	✓	✓	✓						
	4	✓	✓	✓						
	5	✓	✓	✓						
	6	✓	✓	✓						
	7	✓	✓	✓						
	8	✓	✓	✓						
	9	✓	✓	✓						
	10	✓	✓	✓						
	11	✓	✓	✓						
	12	✓	✓	✓						
	13	✓	✓	✓						
	14	✓	✓	✓						
	15	✓	✓	✓						
	16	✓	✓	✓						
	17	✓	✓	✓						
	18	✓	✓	✓						
	19	✓	✓	✓						
	20	✓	✓	✓						
	21	✓	✓	✓						
	22	✓	✓	✓						
	23	✓	✓	✓						
	24	✓	✓	✓						
	25	✓	✓	✓						
	26	✓	✓	✓						
	27	✓	✓	✓						
	28	✓	✓	✓						
	29	✓	✓	✓						
	30			✓						
	31			✓						
	32			✓						
	33			✓						
	34			✓						
	35			✓						
	36			✓						

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13329992	EVANS, GREGORY MORGAN
	Examiner	**Art Unit**
	WARNER WONG	2469

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	06/14/2013	12/16/2013	12/16/2013						
	37			✓						
	38			✓						

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S2	4	(("20090067328") or ("20040252651")).PN.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2013/12/16 15:46

EAST Search History (Interference)

< This search history is empty>

12/24/2013 2:44:48 PM
H:\Workspaces\13329992.wsp

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13329992	EVANS, GREGORY MORGAN
	Examiner	Art Unit
	WARNER WONG	2469

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
370	401	6/12/2013	WW
709		6/12/2013	WW

SEARCH NOTES		
Search Notes	Date	Examiner
Inventor and assignee names searches; keyword searches using subclasses	6/12/2013	WW
updated search	12/16/2013	WW

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Gregory M. Evans
Serial No. 13/329,992
Filed: 12/19/2011
Attorney Docket No. 1104-111C
For: **HIGH-SPEED WAN TO WIRELESS LAN GATEWAY**

Examiner: Warner Wong
Art Unit: 2469

Mail Stop AF
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

RESPONSE TO THE FINAL OFFICE ACTION MAILED DECEMBER 30, 2013

In response to the Final Office Action mailed December 30, 2013, Applicant offers the following amendments and remarks. If any fees are required in association with this response, the Director is hereby authorized to charge them to Deposit Account 50-1732, and consider this a petition therefor.

In the Claims:

1. (Previously Presented) A gateway interconnecting a first network to a second network comprising:

an offload engine;

a data cache associated with the offload engine;

a network interface communicatively coupling the offload engine to the first network and providing a first data rate; and

an interface associated with the offload engine and adapted to communicate with a plurality of user devices within the second network, the interface providing a second data rate that is less than the first data rate of the network interface;

wherein the offload engine is adapted to:

receive content from the first network via the network interface at the first data rate;

store the content in the data cache such that the first data rate is supported by the gateway; and

transmit the content from the data cache to a corresponding one of the plurality of user devices in the second network via the interface at the second data rate.

2. (Original) The gateway of claim 1 wherein the offload engine comprises a number of protocol stack layers from a protocol stack of the gateway and is implemented in a cross-layer architecture enabling communication between non-adjacent layers in the protocol stack.

3. (Previously Presented) The gateway of claim 1 wherein the network interface is coupled to the second network via a Fiber-to-the-Home (FTTH) connection.

4. (Previously Presented) The gateway of claim 1 wherein the interface operates according to one of the plurality of IEEE 802.11 standards.

5. (Original) The gateway of claim 1 wherein the first data rate provided by the network interface is at least 1 Gigabit per second (Gbps).

6. (Previously Presented) The gateway of claim 5 wherein the second data rate provided by the second network is less than or equal to 500 Megabits per second (Mbps).

7. (Previously Presented) The gateway of claim 1 further comprising a rule check engine adapted to inspect the content from the first network based upon at least one rule prior to transmitting the content to the corresponding one of the plurality of user devices in the second network.

8. (Previously Presented) The gateway of claim 7 wherein the rule check engine performs a stateful inspection of the content.

9. (Previously Presented) The gateway of claim 7 wherein the rule check engine performs a stateless inspection of the content.

10. (Original) The gateway of claim 7 wherein the at least one rule comprises at least one intrusion detection rule for detecting malicious network traffic.

11. (Original) The gateway of claim 7 wherein the at least one rule comprises at least one Digital Rights Management (DRM) rule.

12. (Previously Presented) The gateway of claim 11 further comprising a DRM function initiated by the rule check engine based on the at least one DRM rule.

13. (Previously Presented) The gateway of claim 12 wherein:

the rule check engine is further adapted to inspect the content based on the at least one DRM rule to identify data to be processed by the DRM function and initiate the DRM function for the identified data; and

the DRM function is adapted to encode the identified data such that encoded data is transmitted to the corresponding one of the plurality of user devices within the second network, and provide license keys for decoding the encoded data to desired ones of the plurality of user devices having permission to consume the encoded data.

14. (Previously Presented) The gateway of claim 7 wherein the at least one rule comprises at least one content rule identifying a type of content to block from entering the second network.

15. (Previously Presented) The gateway of claim 1 further comprising a file format conversion function adapted to convert the content that is in a first file format to a second file format having lesser bandwidth requirements.

16. (Previously Presented) The gateway of claim 1 further comprising a conversion function adapted to convert the content corresponding to a media file having a first quality to a media file having a lesser quality, thereby reducing bandwidth requirements for transferring the media file over the second network.

17. (Previously Presented) The gateway of claim 1 further comprising a rule check engine adapted to:

inspect the content to identify data in a specified file format; and

initiate a file format conversion function adapted to convert the content to a new file format having lesser bandwidth requirements prior to transmission of the identified data over the second network.

18. (Previously Presented) The gateway of claim 1 further comprising a rule check engine adapted to:

inspect the content to identify data corresponding to a media file in a specified file format; and

initiate a conversion function adapted to reduce a quality of the media file prior to transmission of the identified data over the second network.

19. (Previously Presented) The gateway of claim 1 wherein the offload engine is further adapted to:

receive outgoing data from one of the plurality of user devices within the second network at the second data rate provided by the interface;

buffer the outgoing data in the data cache; and

transmit the outgoing data from the data cache to a desired end point via the network interface at the first data rate of the network interface.

20. (Previously Presented) The gateway of claim 19 further comprising:

a rule check engine adapted to inspect the outgoing data to identify data desired to be encoded prior to transmission over the first network; and

a Digital Rights Management (DRM) encoding function adapted to encode the identified data prior to transmission over the first network.

21. (Previously Presented) A method of interconnecting a first network and a second network comprising:

receiving content from the first network at a first data rate;

offloading the content to a data cache; and

transmitting the content from the data cache to a corresponding one of a plurality of user devices within the second network at a second data rate of the second network that is less than the first data rate of the first network, wherein the content is offloaded to the data cache such that the first and second data rates are supported.

22. (Previously Presented) The method of claim 21 wherein transmitting the content from the data cache comprises transmitting the content from the data cache according to an adaptable cross-layering scheme.

23. (Previously Presented) The method of claim 21 wherein receiving the content comprises receiving the content from the second network via a Fiber-to-the-Home (FTTH) connection.

24. (Previously Presented) The method of claim 21 further comprising inspecting the content from the second network in the data cache based upon at least one rule prior to transmitting the content to the corresponding one of the plurality of user devices in the second network.

25. (Previously Presented) The method of claim 21 further comprising:

inspecting the content in the data cache based on at least one Digital Rights Management (DRM) rule to identify data to be processed by a DRM function;

encode the identified data using the DRM function such that the encoded data is transmitted to the corresponding one of the plurality of user devices within the second network; and

providing license keys for decoding the encoded data to desired ones of the plurality of user devices having permission to consume the encoded data.

26. (Previously Presented) The method of claim 21 further comprising:

inspecting the content to identify data in a specified file format;

converting the identified data to a new file format having lesser bandwidth requirements; and

transmitting the identified data in the new file format to the corresponding one of the plurality of user devices within the second network.

27. (Previously Presented) The method of claim 21 further comprising:

inspecting the content to identify data corresponding to a media file in a specified file format;

reducing a quality of the media file, thereby reducing bandwidth requirements of the media file; and

transmitting the reduced quality media file to the corresponding one of the plurality of user devices in the second network.

28-29. (Cancelled).

30. (Previously Presented) The gateway of claim 1 wherein the first network is a Wide Area Network (WAN).

31. (Previously Presented) The gateway of claim 1 wherein the second network is a Local Area Network (LAN).

32. (Previously Presented) The gateway of claim 21 wherein the first network is a Wide Area Network (WAN).

33. (Previously Presented) The gateway of claim 21 wherein the second network is a Local Area Network (LAN).

34. (Previously Presented) A gateway device comprising:

a first interface for receiving content at a first data rate in a first format from a first network;

a data cache for storing the content;

a rules check engine for determining Digital Rights Management (DRM) rules for the content;

a format conversion function for processing the content from the first format to a second format having a different data rate requirement;

a DRM encoder for encoding the converted content for authorized devices of a second network; and

a second interface for transmitting the encoded content over the second network.

35. (Previously Presented) The gateway of claim 34 wherein the first network is a Wide Area Network (WAN).

36. (Previously Presented) The gateway of claim 34 wherein the second network is a Local Area Network (LAN).

37. (Previously Presented) The gateway of claim 36 wherein the LAN is a Wireless Local Area Network (WLAN).

38. (Currently Amended) The gateway of claim 37 wherein the WLAN operates <u>according</u> to one of the 802.11 standards.

REMARKS

The Applicant has carefully reviewed the Final Office Action mailed December 30, 2013 (hereinafter "Office Action") and offers the following remarks to accompany the above amendments.

Initially, the Applicant wishes to thank Examiner Wong for taking the time to speak with the Applicant's representative, Tony Josephson, on February 14, 2014. During the Examiner interview, claims 1 and 34 were discussed along with the references cited in the Office Action. Regarding claim 1, no agreement was reached. With reference to claim 34, Examiner Wong kindly agreed that this claim is patentable over the cited references. The Applicant provides a summary of the arguments presented for both claims 1 and 34 during the Examiner interview.

Moreover, the Applicant notes that claim 38 has been amended to address a typographical error only. The amendment has not been made in view of the prior art and will not necessitate a new search. Therefore, the Applicant requests that the amendment be entered.

Claims 1-27 were rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-21 of U.S. Patent No. 8,102,863. The Applicant will address the rejection once the pending claims are indicated as being allowable. Moreover, the Applicant reserves the right to file a Terminal Disclaimer or otherwise address the rejection at a later time.

Claims 1, 4-10, 14-19, 21, 24, and 26-33 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application Publication No. 2009/0067328 A1 to *Morris et al.* (hereinafter "*Morris*") in view of U.S. Patent Application Publication No. 2004/0252651 A1 to *Karlsen et al.* (hereinafter "*Karlsen*"). Claims 28 and 29 were previously cancelled, thereby rendering the rejection of these claims moot. The Applicant respectfully traverses the rejection.

When rejecting a claim under 35 U.S.C. § 103, the Patent Office must either show that the prior art references teach or suggest all limitations of the claim or explain why the difference(s) between the prior art and the claimed invention would have been obvious to one of ordinary skill in the art.[1] The gap between the prior art and the claimed invention may not be "so great as to render the [claim] nonobvious to one reasonably skilled in the art."[2] Here, the Patent Office has failed to show where each and every limitation of the claims is taught or suggested by

[1] *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 418, 82 U.S.P.Q.2d (BNA) 1385 (2007).
[2] *Dann v. Johnston*, 425 U.S. 219, 230, 189 U.S.P.Q. (BNA) 257, 261 (1976).

the prior art. Further, for those limitations of the claims that are not taught or suggested by the prior art, the Patent Office has failed to explain why those limitations would have been obvious to one of ordinary skill in the art. More specifically, claim 1 recites a gateway that supports a first data and second data rate that is less than the first data rate, where the gateway comprises an offload engine adapted to, among other features, "store the content in the data cache such that the first data rate is supported by the gateway." The Applicant submits that neither *Morris* nor *Karlsen*, either alone or in combination, discloses or suggests storing content in a data cache such that a first data rate is supported by a gateway, where the first data rate is greater than a second data rate also supported by the gateway. As correctly pointed out by the Patent Office, *Morris* does not disclose this feature.[3] Nonetheless, the Patent Office maintains the rejection by asserting that *Karlsen* discloses this feature in paragraphs **[0005]** and **[0023]**.[4] The Applicant respectfully disagrees. Initially, the Applicant notes that during an Examiner interview conducted between the Applicant's representative and Examiner Wong on August 23, 2013, Examiner Wong kindly agreed that this feature was patentable over the combination of *Morris* and *Karlsen*.

Turning to the rejection, despite the admission from the Patent Office that *Morris* does not disclose the aforementioned feature of claim 1, the Applicant provides a brief explanation of *Morris* prior to discussing *Karlsen*. In the Office Action, the Patent Office cited paragraph **[0057]** of *Morris* in establishing that this reference discloses the feature of storing content in a data cache.[5] Regarding paragraph **[0057]**, the Applicant simply notes that this portion discloses buffering packets in a queue based on a quality of service (QoS) priority associated with a data stream to which the data packet belongs.[6] However, as admitted by the Patent Office, *Morris* does not disclose storing content in a data cache such that a first data rate is supported by a gateway, where the first data rate is greater than a second data rate also supported by the gateway.

Karlsen does not overcome the problems of *Morris*. *Karlsen* relates to conferencing calls between terminals of a packet switched network and a circuit switched network that are

[3] *See* Final Office Action mailed December 30, 2013, page 11.
[4] *See* Final Office Action mailed December 30, 2013, page 12.
[5] *See* Final Office Action mailed December 30, 2013, page 11.
[6] *See Morris*, parargraph **[0057]**.

connected through a gateway.[7] Paragraph **[0023]** of *Karlsen* expands on this concept. Specifically, *Karlsen* discloses that a node establishes a packet switched connection with a first terminal at a first data rate and circuit switched connection with a second terminal at a second data rate.[8] According to *Karlsen*, the first data rate is compared to the second data rate and, if the first data rate is lower than the second data rate, a first number of ISDN B-channels are disconnected in order to form a circuit switched connection.[9] Nonetheless, as noted above, claim 1 recites storing content in a data cache such that a first data rate is supported by a gateway, where the first data rate is greater than a second data rate also supported by the gateway. *Karlsen* does not disclose any type of storing operation. Instead, as mentioned above, *Karlsen* discloses disconnecting ISDN B-channels. Moreover, the combination of *Morris* and *Karlsen* does not render the above-noted feature of claim 1 unpatentable. In particular, as previously discussed, *Morris* discloses buffering packets in a queue based on QoS priorities. Thus, the combination of *Morris* and *Karlsen* would result in buffering packets based on QoS priorities and then disconnecting ISDN channels to form a circuit switched connection. The Applicant submits that the combination would not result in storing packets in a data cache such that a first data rate is supported by a gateway. Therefore, claim 1 is patentable over the cited references, and the Applicant requests that the rejection be withdrawn. Likewise, claims 4-10, 14-19, 30, and 31, which depend from claim 1, are patentable for at least the same reasons along with the novel features recited therein.

Claim 21 recites a method comprising, among other features, "transmitting the content from the data cache to a corresponding one of a plurality of user devices within the second network at a second data rate of the second network that is less than the first data rate of the first network, wherein the content is offloaded to the data cache such that the first and second data rates are supported." As detailed above, the combination of *Morris* and *Karlsen* does not disclose or suggest offloading content to a data cache such that first and second data rates, which are different from one another, are supported. As such, claim 21 is patentable over the cited references, and the Applicant requests that the rejection be withdrawn. Similarly, claims 24, 26, 27, 32, and 33, which depend from claim 21, are patentable for at least the same reasons along with the novel features recited therein.

---

[7] *See Karlsen*, paragraphs **[0005]** and **[0021]**.
[8] *See Karlsen*, paragraph **[0023]**.
[9] *See Karlsen*, paragraph **[0023]**.

Claims 2 and 22 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Morris* in view of *Karlsen* and further in view of U.S. Patent No. 5,278,834 to *Mazzola* (hereinafter "*Mazzola*"). The Applicant respectfully traverses the rejection. As detailed above, claims 1 and 21, the base claims from which claims 2 and 22 respectively depend, are patentable over *Morris* and *Karlsen*. In addition, *Mazzola* does not address the problems of *Morris* and *Karlsen*. Accordingly, claims 2 and 22 are patentable over the cited references, and the Applicant requests that the rejection be withdrawn.

Claims 3 and 23 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Morris* in view of *Karlsen* and further in view of U.S. Patent No. 5,818,838 to *Backes et al.*(hereinafter "*Backes*"). The Applicant respectfully traverses the rejection. As previously mentioned, claims 1 and 21, the base claims from which claims 3 and 23 depend, are patentable over *Morris* and *Karlsen*. In addition, the Applicant has reviewed *Backes* and submits that *Backes* does not overcome the shortcomings of both *Morris* and *Karlsen*. Thus, claims 3 and 23 are patentable over the cited references, and the Applicant requests that the rejection be withdrawn.

Claims 11, 12, and 20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Morris* in view of *Karlsen* and further in view of U.S. Patent Application Publication No. 2009/0133116 A1 to *Waisbard et al.* (hereinafter "*Waisbard*"). The Applicant respectfully traverses the rejection. As discussed above, claims 1 and 21, the base claims from which claims 11, 12, and 20 respectively depend, are patentable over *Morris* and *Karlsen*. Furthermore, *Waisbard* does not disclose the features missing from both *Morris* and *Karlsen*. As such, claims 11, 12, and 20 are patentable over the cited references, and the Applicant requests that the rejection be withdrawn.

Claims 34-38 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Morris* in view of *Waisbard*. The Applicant respectfully traverses the rejection. Initially, the Applicant wishes to point out that during the Examiner interview, Examiner Wong agreed that claim 34 is patentable over the cited references. Nonetheless, the Applicant provides a summary of the arguments presented during the Examiner interview. More specifically, claim 34 recites a gateway device comprising, among other features, "a DRM encoder for encoding the converted content for authorized devices of a second network." The Applicant submits that neither *Morris* nor *Waisbard*, either alone or in combination, discloses or suggests a DRM encoder for encoding

converted content for authorized devices of a second network. As correctly pointed out by the Patent Office, *Morris* does not disclose this feature.[10] Nonetheless, in maintaining the rejection, the Patent Office asserts that *Waisbard* discloses this feature in paragraph **[0071]**.[11] The Applicant respectfully disagrees.

Waisbard generally relates to managing time information in the context of DRM systems.[12] In particular, *Waisbard* discloses a rights validator 10 having a time-based query response module 30.[13] The time-based query response module 30 is associated with a trusted time source 40, a semi-trusted time source 45, an elapsed time source 50, and an event source 55.[14] Paragraph **[0071]** of *Waisbard* expands on the functionality of the rights validator 10 in relation to the trusted time source 40, the semi-trusted time source 45, the elapsed time source 50, and the event source 55. In particular, the cited portion discloses that if there is a need to change, add, and delete any of the time or event sources, either code or data contained within the rights validator 10 makes either the change, addition, or deletion.[15] However, as noted above, claim 34 recites a DRM encoder for encoding converted content for authorized devices of a second network. Nowhere do the cited portions make any mention about any of this subject matter.

In addition, claim 34 recites "a second interface for transmitting the encoded content over the second network." Initially, the Applicant notes that the Patent Office has not shown where, exactly, the prior art discloses or suggests this feature. Furthermore, the Applicant has reviewed the cited references and submits that nowhere do the cited references disclose or suggest "a second interface for transmitting the encoded content over the second network." For at least this reason and the reasons noted above, claim 34 is patentable over the cited references, and the Applicant requests that the rejection be withdrawn. Likewise, claims 35-38, which depend from claim 34, are patentable for at least the same reasons along with the novel features recited therein.

---

[10] *See* Final Office Action mailed December 30, 2013, page 24.
[11] *See* Final Office Action mailed December 30, 2013, page 25.
[12] *See Waisbard*, paragraph **[0004]**.
[13] *See Waisbard*, Figure 1 and paragraph **[0057]**.
[14] *See Waisbard*, Figure 1 and paragraphs **[0059]** – **[0062]**.
[15] *See Waisbard*, paragraph **[0071]**.

The present application is now in a condition for allowance and such action is respectfully requested. The Examiner is encouraged to contact the Applicant's representative regarding any remaining issues in an effort to expedite allowance and issuance of the present application.

Respectfully submitted,
WITHROW & TERRANOVA, P.L.L.C.

By: 

Anthony J. Josephson
Registration No. 45,742
100 Regency Forest Drive, Suite 160
Cary, NC 27518
Telephone: (919) 238-2300

Date: February 17, 2014
Attorney Docket: 1104-111C

Electronic Acknowledgement Receipt

EFS ID:	18215850
Application Number:	13329992
International Application Number:	
Confirmation Number:	3088
Title of Invention:	HIGH-SPEED WAN TO WIRELESS LAN GATEWAY
First Named Inventor/Applicant Name:	Gregory Morgan Evans
Customer Number:	74548
Filer:	Benjamin Withrow/Rebecca MacDermut
Filer Authorized By:	Benjamin Withrow
Attorney Docket Number:	1104-111C
Receipt Date:	17-FEB-2014
Filing Date:	19-DEC-2011
Time Stamp:	10:59:52
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		1104-111C_OAF_Response_02-17-14.pdf	561903 3519662259fb1db8d321ad479d65f8bea39e58ee	yes	13

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Response After Final Action	1	1
	Claims	2	7
	Applicant Arguments/Remarks Made in an Amendment	8	13
Warnings:			
Information:			
	Total Files Size (in bytes):	561903	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 13/329,992	Filing Date 12/19/2011	☐ To be Mailed

ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

	(Column 1)	(Column 2)		
FOR	NUMBER FILED	NUMBER EXTRA	RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT	02/17/2014	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 36	Minus	** 36	= 0	X $80 =	0
	Independent (37 CFR 1.16(h))	* 3	Minus	***3	= 0	X $420 =	0
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
						TOTAL ADD'L FEE	0

AMENDMENT		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =	
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
						TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
/EVELYN NIMMONS/

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/329,992	12/19/2011	Gregory Morgan Evans	1104-111C	3088

74548 7590 03/03/2014

FlashPoint Technology and Withrow & Terranova
100 Regency Forest Drive
Suite 160
Cary, NC 27518

EXAMINER	
WONG, WARNER	
ART UNIT	PAPER NUMBER
2469	

MAIL DATE	DELIVERY MODE
03/03/2014	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Applicant-Initiated Interview Summary	Application No.	Applicant(s)	
	13/329,992	EVANS, GREGORY MORGAN	
	Examiner	Art Unit	
	WARNER WONG	2469	

All participants (applicant, applicant's representative, PTO personnel):

(1) *WARNER WONG*. (3)_____.

(2) *Tony Josephson*. (4)_____.

Date of Interview: *14 February 2013*.

Type: ☒ Telephonic ☐ Video Conference
☐ Personal [copy given to: ☐ applicant ☐ applicant's representative]

Exhibit shown or demonstration conducted: ☐ Yes ☐ No.
If Yes, brief description: _____.

Issues Discussed ☐101 ☐112 ☐102 ☐103 ☐Others
(For each of the checked box(es) above, please describe below the issue and detailed description of the discussion)

Claim(s) discussed: *1-38*.

Identification of prior art discussed: _____.

Substance of Interview
(For each issue discussed, provide a detailed description and indicate if agreement was reached. Some topics may include: identification or clarification of a reference or a portion thereof, claim interpretation, proposed amendments, arguments of any applied references etc...)

Examiner respond to remarks set out for interview discussion, and reaffirms how each piece is mapped to the prior art. Attorney proposes new amendments that may be considered in the future for allowance, as well as pointing out that claims 34-38 are not cancelled as erroneously indicated in the interview attachment.

Applicant recordation instructions: The formal written reply to the last Office action must include the substance of the interview. (See MPEP section 713.04). If a reply to the last Office action has already been filed, applicant is given a non-extendable period of the longer of one month or thirty days from this interview date, or the mailing date of this interview summary form, whichever is later, to file a statement of the substance of the interview

Examiner recordation instructions: Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

☐ Attachment

/WARNER WONG/ Primary Examiner, Art Unit 2469	

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record
A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews
Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.
All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:
- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:
1) A brief description of the nature of any exhibit shown or any demonstration conducted,
2) an identification of the claims discussed,
3) an identification of the specific prior art discussed,
4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
5) a brief identification of the general thrust of the principal arguments presented to the examiner,
   (The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
6) a general indication of any other pertinent matters discussed, and
7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/329,992	12/19/2011	Gregory Morgan Evans	1104-111C	3088

74548 7590 03/10/2014

FlashPoint Technology and Withrow & Terranova
100 Regency Forest Drive
Suite 160
Cary, NC 27518

EXAMINER	
WONG, WARNER	
ART UNIT	PAPER NUMBER
2469	

MAIL DATE	DELIVERY MODE
03/10/2014	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 13/329,992	Applicant(s) EVANS, GREGORY MORGAN	
	Examiner WARNER WONG	Art Unit 2469	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 February 2014*.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

5)☒ Claim(s) *1-38* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☒ Claim(s) *34-38* is/are allowed.

7)☒ Claim(s) *1-33* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some * c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Interim copies:

a)☐ All b)☐ Some c)☐ None of the: Interim copies of the priority documents have been received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

4) ☐ Other: _____.

The present application is being examined under the pre-AIA first to invent provisions.

DETAILED ACTION

The previous final Office Action has been vacated and is replaced by this instant Final Office Action in view of the previous amendments dated October 21, 2013.

Allowable Subject Matter

1. **Claims 13 and 25** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 34-38 are allowable.

Response to Arguments

Applicant's arguments filed 2/17/2014 regarding claims 1 & 21 have been fully considered but they are not persuasive. Applicant's argusments regarding claim 34 on on p. 11-12 are effectively argues, also during telephone interview, and are overcome.

On pp. 8-10, Applicants argue regarding claim 1 that references of Morris and Karlsen combined fail to disclose "storing content in a data cache such that a first data rate is supported by a gateway, where the first data rate is greater than a second data rate also supported by the gateway". The Examiner respectfully disagrees.

As indicated in the latest telephone interview, the Examiner, from re-examination, clearly understands that Morris describes all features including buffer/storage within

gateway to support transfer between a lower speed interface and a higher speed interface. Morris only fails to additionally explicitly describe that the WAN (first network) bears a data rate/speed less that the LAN (second network), which is recited in Karlsen. Since both Morris and Karlsen are of the same art and a motivation is provided, Morris and Karlsen combined fulfilled all limitations under the USC 103(a) rejection.

On pp. 10-11, the Applicants argue regarding claim 21 similar to that of claim 1 which is responded above.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-27 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1- of U.S. Patent No. 8,102,863 (herein referred to as '863). Although the conflicting claims are not identical, they are not patentably distinct from each other because they are obvious subsets of the patented claims.

Regarding claim 1, '863 describes:

a gateway interconnecting a first network/Wide Area Network (WAN) to a lower speed second network/Wireless Local Area Network (WLAN) comprising:

an adaptable cross-layer offload engine;

a data cache associated with the offload engine;

a network interface communicatively coupling the offload engine to the WAN and providing a first data rate; and

a wireless interface associated with the offload engine and adapted to communicate with a plurality of user devices within the second network/WLAN, the wireless interface providing a second data rate that is less than the first data rate of the network interface; wherein the offload engine is adapted to:

receive incoming data from the first network/WAN via the network interface at the first data rate;

store the incoming data in the data cache; and

transmit the incoming data from the data cache to a corresponding one of the plurality of user devices in the WLAN via the wireless interface at the second data rate (claim 1).

Regarding claim 2, '863 further describes:

wherein the offload engine comprises a number of protocol stack layers from a protocol stack of the gateway and is implemented in a cross-layer architecture enabling communication between non-adjacent layers in the protocol stack (claim 2).

Regarding claim 3, '863 further describes:

wherein the network interface is coupled to the WAN via a Fiber-to-the-Home (FTTH) connection (claim 3).

Regarding claim 4, '863 further describes:

wherein the wireless interface operates according to one of the plurality of IEEE 802.11 standards (claim 4).

Regarding claim 5, '863 further describes:

wherein the first data rate provided by the network interface is at least 1 Gigabit per second (Gbps) (claim 5).

Regarding claim 6, ‘863 further describes:

wherein the second data rate provided by the WLAN is less than or equal to 500 Megabits per second (Mbps) (claim 6).

Regarding claim 7, ‘863 further describes:

further wherein the gateway further comprises:

a rule check engine adapted to inspect the incoming data from the WAN based upon at least one rule prior to transmitting the incoming data to the corresponding one of the plurality of user devices in the WLAN (claim 1).

Regarding claim 8, ‘863 further describes:

wherein the rule check engine performs a stateful inspection of the incoming data (claim 7).

Regarding claim 9, ‘863 further describes:

wherein the rule check engine performs a stateless inspection of the incoming data (claim 8).

Regarding claim 10, ‘863 further describes:

wherein the at least one rule further comprises at least one intrusion detection rule for detecting malicious network traffic (claim 9).

Regarding claim 11, ‘863 further describes:

the at least one rule comprises at least one Digital Rights Management (DRM) rule (claim 1).

Regarding claim 12, ‘863 further describes:

the DRM function initiated by the rule check engine based on the at least one DRM rule (claim 1).

Regarding claim 13, ‘863 further describes:

the rule check engine is adapted to inspect the incoming data based on the at least one DRM rule to identify data to be processed by a DRM function and initiate the DRM function for the identified data; and

the DRM function being adapted to encode the identified data such that encoded data is transmitted to the corresponding one of the plurality of user devices within the WLAN, and provide license keys for decoding the encoded data to desired ones of the plurality of user devices having permission to consume the encoded data (claim 1).

Regarding claim 14, ‘863 further describes:

wherein the at least one rule further comprises at least one content rule identifying a type of content to block from entering the WLAN (claim 10).

Regarding claim 15, ‘863 further describes:

a file format conversion function adapted to convert the incoming data that is in a first file format to a second file format having lesser bandwidth requirements (claim 11).

Regarding claim 16, ‘863 further describes:

a conversion function adapted to convert the incoming data corresponding to a media file having a first quality to a media file having a lesser quality, thereby reducing bandwidth requirements for transferring the media file over the WLAN (claim 12).

Regarding claim 17, ‘863 further describes:

wherein the rule check engine is further adapted to: inspect the incoming data to identify data in a specified file format; and

initiate a file format conversion function adapted to convert the identified data to a new file format having lesser bandwidth requirements prior to transmission of the identified data over the WLAN (claim 13).

Regarding claim 18, '863 further describes:

wherein the rule check engine is further adapted to: inspect the incoming data to identify data corresponding to a media file in a specified file format; and

initiate a conversion function adapted to reduce a quality of the media file prior to transmission of the identified data over the WLAN (claim 14).

Regarding claim 19, '863 further describes:

wherein the offload engine is further adapted to:

receive outgoing data from one of the plurality of user devices within the WLAN at the second data rate provided by the wireless interface;

buffer the outgoing data in the data cache; and

transmit the outgoing data from the data cache to a desired end point via the network interface at the first data rate of the network interface (claim 15).

Regarding claim 20, '863 further describes:

the rule check engine is further adapted to inspect the outgoing data to identify data desired to be encoded prior to transmission over the WAN; and

the DRM function is further adapted to encode the identified data prior to transmission over the WAN (claim 16).

Regarding claim 21, '863 describes:

a method of interconnecting a Wide Area Network (WAN) and a lower speed Wireless Local Area Network (WLAN) comprising:

receiving incoming data from the WAN at a first data rate;

offloading the incoming data to a data cache;

transmitting the incoming data, including the encoded data, from the data cache to a corresponding one of a plurality of user devices within the WLAN at a second data rate of the WLAN that is less than the first data rate of the WAN (claim 17).

Regarding claim 22, '863 further describes:

wherein transmitting the incoming data from the data cache comprises transmitting the incoming data from the data cache according to an adaptable cross-layering scheme (claim 18).

Regarding claim 23, '863 further describes:

wherein receiving the incoming data comprises receiving the incoming data from the WAN via a Fiber-to-the-Home (FTTH) connection (claim 19).

Regarding claim 24, '863 further describes:

inspecting the incoming data to identify data corresponding to a media file in a specified file format; reducing a quality of the media file, thereby reducing bandwidth requirements of the media file; and transmitting the reduced quality media file to the corresponding one of the plurality of user devices in the WLAN (claim 21).

Regarding claim 25, '863 further describes:

inspect the incoming data from the WAN based upon at least one Digital Rights Management (DRM) rule to identify data to be processed by a DRM function;

encoding, by the DRM function, the identified data to provided encoded data; and

providing a license key for decoding the encoded data to the corresponding one of the plurality of user devices if the corresponding one of the plurality of user devices has permission to consume the encoded data. (claim 17).

Regarding claim 26, '863 further describes:

inspecting the incoming data to identify data in a specified file format;

converting the identified data to a new file format having lesser bandwidth requirements;

transmitting the identified data in the new file format to the corresponding one of the plurality of user devices within the WLAN (claim 20).

Regarding claim 27, '863 further describes:

inspecting the incoming data to identify data corresponding to a media file in a specified file format;

reducing a quality of the media file, thereby reducing bandwidth requirements of the media file; and

transmitting the reduced quality media file to the corresponding one of the plurality of user devices in the WLAN (claim 21).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 4-10, 14-19, 21, 24, and 26-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morris (US 2009/0067328) in view of Karlsen (US 2004/025651).

Regarding claim 1, Morris describes a gateway interconnecting a first network/Wide Area Network (WAN) to second network/Wireless Local Area Network (WLAN) (fig. 1 & abstract), comprising:

an adaptable cross-layer offload engine (para. 39, software-implemented protocol stack (cross-layer offload engine) for implementing the software program to handle the data traffic (load));

a data cache associated with the offload engine (para. 57, packet is buffered 522 in the appropriate queue for streaming in the gateway);

a network interface communicatively coupling the offload engine to the first network/WAN and providing a first data rate (fig. 3, WAN interface 309 connecting to CPU 300 running protocol stack software program (offload engine), wherein WAN interface 301 operates in data rate different from WLAN interface 306, para. 18 & 59);

a wireless interface associated with the offload engine and adapted to communicate with a plurality of user devices within the second network/WLAN (fig. 3,

WLAN interface 306 connecting to CPU 300 running protocol stack software program (offload engine), the wireless interface providing a second data rate

wherein the offload engine is adapted to:

receive content from the first network via the network interface at the first data rate (fig. 3, WAN interface 301 operates in data rate different from WLAN interface 306, para. 18 & 59);

store the content in the data cache (fig. 5 & para. 57, incoming packets are buffered 522); and

transmit the content from the data cache to a corresponding one of the plurality of user devices in the second network via the wireless interface at the second data rate (fig. 1 & abstract, handling data traffic between LAN's local computers and the WAN, where data rate differs between the WLAN and WAN interfaces, para. 18 & 59).

Morris fails to additionally explicitly describe:

first higher speed network/WAN is connected to a second lower speed network/WLAN, and first network interface operates at higher speed than second network interface.

store content in data cache such that the first data rate is supported by the gateway.

Karlsen also describes a gateway between internal and external networks (fig. 3 & para. 2-4, gateway 200 for communication between internal, enterprise network H.323 210 and external network ISDN-base H.320 214), further describing:

store content in data cache such that the first data rate is supported by the gateway (para. 5, GW's functionality is to buffer the data, & innovatively downspeeding the data rate with translation & repacketing data to a reduced number of channels, para. 23).

first higher speed network is connected to a second lower speed network, and first network interface operates at higher speed than second network interface (fig. 3 & para. 18 in view of abstract, external H.320 (higher speed WAN) network transmission at higher rate than internal H.323 (lower speed LAN) network).

It would have been obvious to one with ordinary skill in the art at the time of invention to specify that the WAN network 1 and wireless LAN network 2 of Morris to have data rates such that external network 1 WAN transmission is faster than the internal network 2 LAN transmission as in Karlsen.

The motivation for combining the teachings is that this provides a solution for downspeeding between such specified heterogeneous data-rate network (para. 21-23).

Regarding claim 4, Morris further describes:

The wireless interface operates according to one of the plurality of IEEE 802.11 standards (wireless LAN may use either 802.11b or 802.11g).

Regarding claim 5, Morris further describes:

the first data rate provided by the network interface is at least 1 Gigabit per second (Gbps) (para. 7, speed used may be 1 Gbps).

Regarding claim 6, Morris further describes:

the second data rate provided by the network interface is less than or equal to 500 Megabits per second (Mbps) (para. 7, speed used may be hundreds of Mbps).

Regarding claim 7, Morris further describes:

comprising a rule check engine adapted to inspect the incoming data from the first network/WAN based upon at least one rule prior to transmitting the content to the corresponding one of the plurality of user devices in the second network/WLAN (fig..1 & abstract, data traffic flows from WAN 102 to WLAN 112b will be evaluated using ALG rules in gateway 106, para. 47).

Regarding claim 8, Morris further describes:

the rule check engine performs a stateful inspection of the content (para. 47 & 49, predefined (stateful) rules in ALG may be used).

Regarding claim 9, Morris further describes:

the rule check engine performs a stateless inspection of the content (para. 47 & 49, user-configured overriding (stateless) rules in ALG may be used).

Regarding claim 10, Morris further describes:

the at least one rule comprises at least one intrusion detection rule for detecting malicious network traffic (fig. 1 & para. 47, gateway 108 comprising ALG packet processing rules is also implemented as firewall to intercept unauthorized WAN communication, para. 40).

Regarding claim 14, Morris further describes:

the at least one rule comprises at least one content rule identifying a type of content to block from entering the second network/WLAN (abstract & para. 6, multi-

function gateway comprising firewall to block intercepted unauthorized WAN communications (type), para. 40).

Regarding claim 15, Morris and Karlsen combined already describe:

a second file format having lesser bandwidth requirements that a first file format (Karlsen, the H.323 format uses lower rate than H.320).

Morris further describes:

a file format conversion function adapted to convert the incoming data that is in a first file format to a second file format (para. 39, protocol module 314 performing protocol conversions from WAN to LAN).

Regarding claim 16, Morris and Karlsen combined further describe:

a conversion function adapted to convert the content corresponding to a media file having a first quality to a media file having a lesser quality (Karlsen, para. 18, gateway translates and repacks (converts) from higher rate H.320 to lower rate H.323 video (media) file stream, that quality of service (quality) cannot be guaranteed (lesser quality), para. 4).

Regarding claim 17, Morris further describes:

inspect the content to identify data in a specified file format (para. 53, packet header of analyzed for identified stream).

Morris and Karlsen combined further describe:

initiate a file format conversion function adapted to convert the identified data to a new file format having a lesser bandwidth requirements prior to transmission of the identified data over the second network/WLAN (Karlsen, para. 4 & 18, translating from

higher rate H.320 to lower rate H.323 (format conversion) which will not be guaranteed the quality of service (quality) before forwarding).

Regarding claim 18, Morris further describes:

inspect the incoming data to identify data in a specified file format (para. 53, packet header of analyzed for identified stream).

Morris and Karlsen combined further describe:

initiate a conversion adapted to reduce a quality of the media file prior to transmission of the identified data over the second network/WLAN (Karlsen, para. 4 & 18, translating from higher rate H.320 to lower rate H.323 (format conversion) which will not be guaranteed the quality of service (quality) before forwarding).

Regarding claim 19, Morris further describes:

wherein the offload engine (fig. 1, gateway processing), is further adapted to:

receive outgoing data from one of the plurality of user devices within the second network/WLAN at the second data rate provided by the wireless interface;

buffer the outgoing data in the data cache; and

transmit the outgoing data from the data cache to a desired end point via the network interface at the first data rate of the network interface (claim 15).

Regarding claim 21, Morris describes a method of interconnecting a first network/Wide Area Network (WAN) to second network/Wireless Local Area Network (WLAN) (fig. 1 & abstract), comprising:

receiving content from the WAN at a first data rate (fig. 1 & abstract, gateway manages traffic between WAN 102 & WLAN 112b, where LAN speed differs from WAN);

offloading the content to a data cache ((para. 57, packet is buffered 522 in the appropriate queue for streaming in the gateway);

transmitting the content from the data cache to a corresponding one of a plurality of user devices within the WLAN at a second data rate (fig. 3, WLAN interface 306 connecting to CPU 300 running protocol stack software program (offload engine), the wireless interface providing a second data rate).

Morris fails to additionally explicitly describe:

first network/WAN is connected to a lower speed second network/WLAN, and first network/WAN interface operates at higher speed than second network/WLAN interface.

Karlsen also describes a gateway between internal and external networks (fig. 3 & para. 2-4, gateway 200 for communication between internal, enterprise network H.323 210 and external network ISDN-base H.320 214), further describing:

first network/WAN is connected to a lower speed second network/LAN, and first network/WAN interface operates at higher speed than second network/LAN interface (fig. 3 & para. 18 in view of abstract, external H.320 (WAN) network transmission at higher rate than internal H.323 (LAN) network).

It would have been obvious to one with ordinary skill in the art at the time of invention to specify that the first network/WAN and second network/wireless LAN of

Morris to have data rates such that external WAN transmission is faster than the internal LAN transmission as in Karlsen.

The motivation for combining the teachings is that this provides a solution for downspeeding between such specified heterogeneous data-rate network (para. 21-23).

Regarding claim 24, Morris further describes:

comprising a rule check engine adapted to inspect the incoming data from the first network/WAN based upon at least one rule prior to transmitting the incoming data to the corresponding one of the plurality of user devices in the second network/WLAN (fig..1 & abstract, data traffic flows from first network/WAN 102 to second network/WLAN 112b will be evaluated using ALG rules in gateway 106, para. 47).

Regarding claim 26, Morris further describes:

inspect the content to identify data in a specified file format (para. 53, packet header of analyzed for identified stream).

Morris and Karlsen combined further describe:

converting the identified data to a new file format having lesser bandwidth requirements, and transmitting the identified data in the new file format to the corresponding one of the plurality of user devices within the second network/WLAN (Karlsen, para. 4 & 18, translating from higher rate H.320 to lower rate H.323 (format conversion) which will not be guaranteed the quality of service (quality) before forwarding).

Regarding claim 27, Morris further describes::

inspecting the content to identify data corresponding to a media file in a specified file format (para. 53, packet header of analyzed for identified stream).

Morris and Karlsen combined further describe

reducing a quality of the media file, thereby reducing bandwidth requirements of the media file, and transmitting the reduced quality media file to the corresponding one of the plurality of user devices in the second network/WLAN ((Karlsen, para. 18, gateway translates and repacks (converts) from higher rate H.320 to lower rate H.323 video (media) file stream, that quality of service (quality) cannot be guaranteed (lesser quality), para. 4).

Regarding claim 30, Morris further describes:

first network is a Wide Area Network (fig. 1 & abstract).

Regarding claim 31, Morris further describes:

second network is a Local Area Network (fig. 1 & abstract).

Regarding claim 32, Morris further describes:

first network is a Wide Area Network (fig. 1 & abstract).

Regarding claim 33, Morris further describes:

second network is a Local Area Network (fig. 1 & abstract).

4. Claims 2 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morris in view of Karlsen, and further in view of Mazzola (US 5,278,834).

Regarding claim 2, Morris and Karlsen combined fail to additionally explicitly describe:

wherein the offload engine comprises a number of protocol stack layers from a protocol stack of the gateway and is implemented in a cross-layer architecture enabling communication between non-adjacent layers in the protocol stack.

Mazzola also describes a processing node comprising a protocol stack (fig. 1, node 10 with stack 14a), further comprising:

wherein the offload engine comprises a number of protocol stack layers from a protocol stack of the gateway and is implemented in a cross-layer architecture enabling communication between non-adjacent layers in the protocol stack (abstract, processing the data via protocol stack is done by inter-layer passing (cross-layer architecture).

It would have been obvious to one with ordinary skill in the art at the time of invention by applicant to specify that the protocol stack of Morris indicates a cross-layer architecture as in Mazzola.

The motivation for combining the teachings is that this enable vertical communications between adjacent layers of a particular system (Mazzola, col. 1, lines 50-53).

Regarding claim 22, Morris and Karlsen combined fail to additionally explicitly describe:

transmitting the incoming data from the data cache according to an adaptable cross-layering scheme.

Mazzola also describes a processing node comprising a protocol stack (fig. 1, node 10 with stack 14a), further comprising:

transmitting the incoming data from the data cache according to an adaptable cross-layering scheme (abstract, processing the transmission data via protocol stack is done by inter-layer passing as needed (adaptable cross-layer scheme).

It would have been obvious to one with ordinary skill in the art at the time of invention by applicant to specify that the protocol stack of Morris indicates a cross-layer architecture as in Mazzola.

The motivation for combining the teachings is that this enable vertical communications between adjacent layers of a particular system (Mazzola, col. 1, lines 50-53).

5. Claims 3 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morris in view of Karlsen, and further in view of Backes (US 5,818,838).

Regarding claim 3, Morris and Karlsen combined fail to additionally explicitly describe:

the network interface is coupled to the second network via Fiber to the Home (FTTH) connection.

Backes also describes a gateway connecting WAN to LAN (fig. 1, bridge 63), further comprising:

the network interface is coupled to the WAN via Fiber to the Home (FTTH) connection (fig. 1 & col. 2, lines 4-7, network interface segments from second network of WAN to bridge to premise 70a-e 71a-e, 72a-e & 73a is fiber, thus being FTTP (Fiber to the Premise) or FTTH).

It would have been obvious to one with ordinary skill in the art at the time of invention to specify that the network of Morris be implemented using FTTH as in Backes.

The motivation for combining the teachings is that this enables a general concept in using a different protocol for connection between LAN & WAN internetworking (Backes, col. 1, lines 20-23).

Regarding claim 23, Morris and Karlsen combined fail to additionally explicitly describe:

receiving the incoming data from the WAN via Fiber to the Home (FTTH) connection.

Backes also describes a gateway connecting WAN to LAN (fig. 1, bridge 63), further comprising:

receiving the incoming data from the WAN via Fiber to the Home (FTTH) connection (fig. 1 & col. 2, lines 4-7, network interface segments from WAN to bridge to premise 70a-e 71a-e, 72a-e & 73a is fiber, thus being FTTP (Fiber to the Premise) or FTTH).

It would have been obvious to one with ordinary skill in the art at the time of invention to specify that the network of Morris be implemented using FTTH as in Backes.

The motivation for combining the teachings is that this enables a general concept in using a different protocol for connection between LAN & WAN internetworking (Backes, col. 1, lines 20-23).

6. Claims 11-12, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morris in view of Karlsen, and further in view of Waisbard (US 2009/0133116).

Regarding claim 11, Morris describes gateway to incorporate various functionality such as firewall, etc., but fails to additionally describe:

the at least one rule comprises at least one Digital Rights Management (DRM) rule.

Waisbard also describes a system/apparatus comprising a rights validator 10 (fig. 1), further describing:

the at least one rule comprises at least one Digital Rights Management (DRM) rule (para. 5, DRM rules used by digital rights validation module of the validator).

It would have been obvious to one with ordinary skill in the art at the time of invention by applicant to specify that the multi-function gateway of Morris to also comprise a validator with digital rights validation using DRM rules as in Waisbard.

The motivation for combining the teachings is that this enables processing to ensure allow or prevent use of DRM-protected time information (Waisbard, para. 4-5).

Regarding claim 12, Morris, Karlsen and Waisbard combined further describes:

Aa DRM function initiated by the rule check engine based on the at least one DRM rule (Waisbard, para. 5, based on DRM rules, DRM functions to either allow or prevent access of processing of time information).

Regarding claim 20, Morris already describes protocol module for

a rule check engine is further adapted to inspect the outgoing data to identify data desired to be encoded prior to transmission over the first network/WAN (para. 39, protocol module parses data packets for protocol conversions from various protocols supported, para. 32).

Morris fails to additionally explicitly describe:

a Digital Rights Management (DRM) DRM encoding function adapted to encode the identified data prior to transmission over the first network/WAN;

Waisbard also describes a system/apparatus comprising a rights validator 10 (fig. 1), further describing:

a Digital Rights Management (DRM) DRM encoding function adapted to encode the identified data prior to transmission over the first network/WAN (para. 71, update the code of the validated data).

It would have been obvious to one with ordinary skills in the art at time of invention to specify that the gateway of Morris to incorporate a DRM encoding function as per the system/apparatus of Waisbard.

The motivation for combining the teachings is that this enables processing to ensure allow or prevent use of DRM-protected time information (Waisbard, para. 4-5).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Miller (US 7,382,879) describing DRM encoded contents sent from target server comprising rules to clients, Ansari (US 7,987,490) describing media

content manager with policies at user premise to aggregate & encode DRM data, and Adams (US 7,895,442) describing interconnect device to enable manager & distribute DRM data to clients.

Applicant's previous amendment dated October 21, 2013 necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to WARNER WONG whose telephone number is (571)272-8197. The examiner can normally be reached on 6:30AM - 4:00PM, M-R.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ian Moore can be reached on (571) 272-3085. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Warner Wong
Primary Examiner
Art Unit 2469

/WARNER WONG/
Primary Examiner, Art Unit 2469

Notice of References Cited	Application/Control No. 13/329,992	Applicant(s)/Patent Under Reexamination EVANS, GREGORY MORGAN	
	Examiner WARNER WONG	Art Unit 2469	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-7,382,879	06-2008	Miller, Eric	380/201
*	B	US-7,987,490	07-2011	Ansari et al.	725/82
*	C	US-7,895,442	02-2011	Adams et al.	713/176
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13329992	EVANS, GREGORY MORGAN
	Examiner	Art Unit
	WARNER WONG	2469

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
370	401	6/12/2013	WW
709		6/12/2013	WW

SEARCH NOTES		
Search Notes	Date	Examiner
Inventor and assignee names searches; keyword searches using subclasses	6/12/2013	WW
updated search	12/16/2013	WW
updated search	3/6/2014	WW

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13329992	EVANS, GREGORY MORGAN
	Examiner	Art Unit
	WARNER WONG	2469

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	06/14/2013	12/16/2013	12/16/2013	03/06/2014					
	1	✓	✓	✓	✓					
	2	✓	✓	✓	✓					
	3	✓	✓	✓	✓					
	4	✓	✓	✓	✓					
	5	✓	✓	✓	✓					
	6	✓	✓	✓	✓					
	7	✓	✓	✓	✓					
	8	✓	✓	✓	✓					
	9	✓	✓	✓	✓					
	10	✓	✓	✓	✓					
	11	✓	✓	✓	✓					
	12	✓	✓	✓	✓					
	13	✓	✓	✓	✓					
	14	✓	✓	✓	✓					
	15	✓	✓	✓	✓					
	16	✓	✓	✓	✓					
	17	✓	✓	✓	✓					
	18	✓	✓	✓	✓					
	19	✓	✓	✓	✓					
	20	✓	✓	✓	✓					
	21	✓	✓	✓	✓					
	22	✓	✓	✓	✓					
	23	✓	✓	✓	✓					
	24	✓	✓	✓	✓					
	25	✓	✓	✓	✓					
	26	✓	✓	✓	✓					
	27	✓	✓	✓	✓					
	28	✓	✓	✓	✓					
	29	✓	✓	✓	✓					
	30			✓	✓					
	31			✓	✓					
	32			✓	✓					
	33			✓	✓					
	34			✓	✓					
	35			✓	=					
	36			✓	=					

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13329992	EVANS, GREGORY MORGAN
	Examiner	**Art Unit**
	WARNER WONG	2469

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	06/14/2013	12/16/2013	12/16/2013	03/06/2014					
	37			✓	=					
	38			✓	=					

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	22581	digital adj1 rights adj1 management	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/03/06 13:55
L2	625	("370"/$).ccls. and (digital adj1 rights adj1 management)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/03/06 13:57
L3	3	("370"/351).ccls. and (digital adj1 rights adj1 management)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/03/06 13:58
L4	4	("370"/$).ccls. and (digital adj1 rights adj1 management) near1 encod$3	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/03/06 13:59
L5	135	(digital adj1 rights adj1 management) near1 encod$3	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/03/06 14:00
L6	5	("370"/$).ccls. and ((digital adj1 rights adj1 management) DRM) near1 encod$3 and ((digital adj1 rights adj1 management) DRM) near1 (rules polic$3)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/03/06 14:16
L7	9	("2102863").PN.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2014/03/06 14:35
L8	1	(11/475360).APP.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2014/03/06 14:35
L9	281	("370"/$).ccls. and (digital adj1 rights adj1 management) and @ay<"2007"	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/03/06 14:47
L10	153	("370"/$).ccls. and (digital adj1 rights adj1 management) and (gateway bridge) and @ay<"2007"	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/03/06 14:48

L11	36	((digital adj1 rights adj1 management) DRM) near1 encod$3 and ((digital adj1 rights adj1 management) DRM) near1 (rules polic$3)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/03/06 14:51
L12	116	((digital adj1 rights adj1 management) DRM) near1 encod$3 and (rules polic$3)	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/03/06 15:27
L14	4815	(digital adj1 rights adj1 management) and encod$3 and (rules polic$3) not L12	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/03/06 16:42
L15	176	("370"/$).ccls. and (digital adj1 rights adj1 management) and encod$3 and (rules polic$3) not L12	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/03/06 16:43
L16	7	qurio.as. and (digital adj1 rights adj1 management).clm.	US-PGPUB; USPAT; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2014/03/06 16:44

EAST Search History (Interference)

<This search history is empty>

3/6/2014 5:27:13 PM
H:\Workspaces\13329992.wsp

Wong, Warner

From: Tony Josephson <TJosephson@wt-ip.com>
Sent: Thursday, February 13, 2014 10:00 AM
To: Wong, Warner
Subject: App. No. 13/329,992 (Atty. Dock. No. 1104-111C)
Attachments: 1104-111C Respone to OAF Mailed 12-30-13.docx

Hi Examiner Wong,

In view of the Examiner interview we have scheduled for tomorrow at 9:30, attached, please find an interview agenda for your review. Thanks.

Tony

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Gregory M. Evans
Serial No. 13/329,992
Filed: 12/19/2011
Attorney Docket No. 1104-111C
For: **HIGH-SPEED WAN TO WIRELESS LAN GATEWAY**

Examiner: Warner Wong
Art Unit: 2469

Mail Stop AF
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

RESPONSE TO THE FINAL OFFICE ACTION MAILED DECEMBER 30, 2013

In response to the Final Office Action mailed December 30, 2013, Applicant offers the following amendments and remarks. If any fees are required in association with this response, the Director is hereby authorized to charge them to Deposit Account 50-1732, and consider this a petition therefor.

FOR DISCUSSION PURPOSES ONLY
PLEASE DO NOT ENTER

In the Claims:

1. (Previously Presented) A gateway interconnecting a first network to a second network comprising:

an offload engine;

a data cache associated with the offload engine;

a network interface communicatively coupling the offload engine to the first network and providing a first data rate; and

an interface associated with the offload engine and adapted to communicate with a plurality of user devices within the second network, the interface providing a second data rate that is less than the first data rate of the network interface;

wherein the offload engine is adapted to:

receive content from the first network via the network interface at the first data rate;

store the content in the data cache such that the first data rate is supported by the gateway; and

transmit the content ~~incoming data~~ from the data cache to a corresponding one of the plurality of user devices in the second network via the interface at the second data rate.

2. (Original) The gateway of claim 1 wherein the offload engine comprises a number of protocol stack layers from a protocol stack of the gateway and is implemented in a cross-layer architecture enabling communication between non-adjacent layers in the protocol stack.

3. (Previously Presented) The gateway of claim 1 wherein the network interface is coupled to the second network via a Fiber-to-the-Home (FTTH) connection.

4. (Previously Presented) The gateway of claim 1 wherein the interface operates according to one of the plurality of IEEE 802.11 standards.

5. (Original) The gateway of claim 1 wherein the first data rate provided by the network interface is at least 1 Gigabit per second (Gbps).

6. (Previously Presented) The gateway of claim 5 wherein the second data rate provided by the second network is less than or equal to 500 Megabits per second (Mbps).

7. (Previously Presented) The gateway of claim 1 further comprising a rule check engine adapted to inspect the content from the first network based upon at least one rule prior to transmitting the content to the corresponding one of the plurality of user devices in the second network.

8. (Previously Presented) The gateway of claim 7 wherein the rule check engine performs a stateful inspection of the content.

9. (Previously Presented) The gateway of claim 7 wherein the rule check engine performs a stateless inspection of the content.

10. (Original) The gateway of claim 7 wherein the at least one rule comprises at least one intrusion detection rule for detecting malicious network traffic.

11. (Original) The gateway of claim 7 wherein the at least one rule comprises at least one Digital Rights Management (DRM) rule.

12. (Previously Presented) The gateway of claim 11 further comprising a DRM function initiated by the rule check engine based on the at least one DRM rule.

13. (Previously Presented) The gateway of claim 12 wherein:

the rule check engine is further adapted to inspect the content based on the at least one DRM rule to identify data to be processed by the DRM function and initiate the DRM function for the identified data; and

the DRM function is adapted to encode the identified data such that encoded data is transmitted to the corresponding one of the plurality of user devices within the second network, and provide license keys for decoding the encoded data to desired ones of the plurality of user devices having permission to consume the encoded data.

14. (Previously Presented) The gateway of claim 7 wherein the at least one rule comprises at least one content rule identifying a type of content to block from entering the second network.

15. (Previously Presented) The gateway of claim 1 further comprising a file format conversion function adapted to convert the content that is in a first file format to a second file format having lesser bandwidth requirements.

16. (Previously Presented) The gateway of claim 1 further comprising a conversion function adapted to convert the content corresponding to a media file having a first quality to a media file having a lesser quality, thereby reducing bandwidth requirements for transferring the media file over the second network.

17. (Previously Presented) The gateway of claim 1 further comprising a rule check engine adapted to:

inspect the content to identify data in a specified file format; and

initiate a file format conversion function adapted to convert the content to a new file format having lesser bandwidth requirements prior to transmission of the identified data over the second network.

18. (Previously Presented) The gateway of claim 1 further comprising a rule check engine adapted to:

inspect the content to identify data corresponding to a media file in a specified file format; and

initiate a conversion function adapted to reduce a quality of the media file prior to transmission of the identified data over the second network.

19. (Previously Presented) The gateway of claim 1 wherein the offload engine is further adapted to:

receive outgoing data from one of the plurality of user devices within the second network at the second data rate provided by the interface;

buffer the outgoing data in the data cache; and

transmit the outgoing data from the data cache to a desired end point via the network interface at the first data rate of the network interface.

20. (Previously Presented) The gateway of claim 19 further comprising:

a rule check engine adapted to inspect the outgoing data to identify data desired to be encoded prior to transmission over the first network; and

a Digital Rights Management (DRM) encoding function adapted to encode the identified data prior to transmission over the first network.

21. (Previously Presented) A method of interconnecting a first network and a second network comprising:

receiving content from the first network at a first data rate;

offloading the content to a data cache; and

transmitting the content from the data cache to a corresponding one of a plurality of user devices within the second network at a second data rate of the second network that is less than the first data rate of the first network, wherein the content is offloaded to the data cache such that the first and second data rates are supported.

22. (Previously Presented) The method of claim 21 wherein transmitting the content from the data cache comprises transmitting the content from the data cache according to an adaptable cross-layering scheme.

23. (Previously Presented) The method of claim 21 wherein receiving the content comprises receiving the content from the second network via a Fiber-to-the-Home (FTTH) connection.

24. (Previously Presented) The method of claim 21 further comprising inspecting the content from the second network in the data cache based upon at least one rule prior to transmitting the content to the corresponding one of the plurality of user devices in the second network.

25. (Previously Presented) The method of claim 21 further comprising:

inspecting the content in the data cache based on at least one Digital Rights Management (DRM) rule to identify data to be processed by a DRM function;

encode the identified data using the DRM function such that the encoded data is transmitted to the corresponding one of the plurality of user devices within the second network; and

providing license keys for decoding the encoded data to desired ones of the plurality of user devices having permission to consume the encoded data.

26. (Previously Presented) The method of claim 21 further comprising:

inspecting the content to identify data in a specified file format;

converting the identified data to a new file format having lesser bandwidth requirements; and

transmitting the identified data in the new file format to the corresponding one of the plurality of user devices within the second network.

27. (Previously Presented) The method of claim 21 further comprising:

inspecting the content to identify data corresponding to a media file in a specified file format;

reducing a quality of the media file, thereby reducing bandwidth requirements of the media file; and

transmitting the reduced quality media file to the corresponding one of the plurality of user devices in the second network.

28-29. (Cancelled).

30. (Previously Presented) The gateway of claim 1 wherein the first network is a Wide Area Network (WAN).

31. (Previously Presented) The gateway of claim 1 wherein the second network is a Local Area Network (LAN).

32. (Previously Presented) The gateway of claim 21 wherein the first network is a Wide Area Network (WAN).

33. (Previously Presented) The gateway of claim 21 wherein the second network is a Local Area Network (LAN).

34-38. (Cancelled) A gateway device comprising:

a first interface for receiving content at a first data rate in a first format from a first network;

a data cache for storing the content;

a rules check engine for determining Digital Rights Management (DRM) rules for the content;

a format conversion function for processing the content from the first format to a second format having a different data rate requirement;

a DRM encoder for encoding the converted content for authorized devices of a second network; and

a second interface for transmitting the encoded content over the second network.

35. (Previously Presented) The gateway of claim 34 wherein the first network is a Wide Area Network (WAN).

36. (Previously Presented) The gateway of claim 34 wherein the second network is a Local Area Network (LAN).

37. (Previously Presented) The gateway of claim 36 wherein the LAN is a Wireless Local Area Network (WLAN).

38. (Currently Amended) The gateway of claim 37 wherein the WLAN operates according to one of the 802.11 standards.

REMARKS

The Applicant has carefully reviewed the Final Office Action mailed December 30, 2013 (hereinafter "Office Action") and offer the following remarks to accompany the above amendments.

Initially, the Applicant noted that claim 38 has been amended to address a typographical error only. The amendment has not been made in view of the prior art and will not necessitate a new search. Therefore, the Applicant requests that the amendment be entered.

Claims 1-27 were rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-21 of U.S. Patent No. 8,102,863. The Applicant will address the rejection once the pending claims are indicated as being allowable. Moreover, the Applicant reserves the right to file a Terminal Disclaimer or otherwise address the rejection at a later time.

Claims 1, 4-10, 14-19, 21, 24, and 26-33 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application Publication No. 2009/0067328 A1 to *Morris et al.* (hereinafter "*Morris*") in view of U.S. Patent Application Publication No. 2004/0252651 A1 to *Karlsen et al.* (hereinafter "*Karlsen*"). Claims 28 and 29 were previously cancelled, thereby rendering the rejection of these claims moot. The Applicant respectfully traverses the rejection.

When rejecting a claim under 35 U.S.C. § 103, the Patent Office must either show that the prior art references teach or suggest all limitations of the claim or explain why the difference(s) between the prior art and the claimed invention would have been obvious to one of ordinary skill in the art.[1] The gap between the prior art and the claimed invention may not be "so great as to render the [claim] nonobvious to one reasonably skilled in the art."[2] Here, the Patent Office has failed to show where each and every limitation of the claims is taught or suggested by the prior art. Further, for those limitations of the claims that are not taught or suggested by the prior art, the Patent Office has failed to explain why those limitations would have been obvious to one of ordinary skill in the art. More specifically, claim 1 recites a gateway that supports a first data and second data rate that is less than the first data rate, where the gateway comprises an offload engine adapted to, among other features, "store the content in the data cache such that the first data rate is supported by the gateway." The Applicant submits that neither *Morris* nor

[1] *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 418, 82 U.S.P.Q.2d (BNA) 1385 (2007).
[2] *Dann v. Johnston*, 425 U.S. 219, 230, 189 U.S.P.Q. (BNA) 257, 261 (1976).

Karlsen, either alone or in combination, disclose or suggest storing content in a data cache such that a first data rate is supported by a gateway, where the first data rate is greater than a second data rate also supported by the gateway. As correctly pointed out by the Patent Office, *Morris* does not disclose this feature.[3] Nonetheless, the Patent Office maintains the rejection by asserting that *Karlsen* discloses this feature in paragraphs **[0005]** and **[0023]**.[4] The Applicant respectfully disagrees. Initially, the Applicant notes that during an Examiner interview conducted between the Applicant's representative, Tony Josephson, and Examiner Wong on August 23, 2013, Examiner Wong kindly agreed that this feature was patentable over the combination of *Morris* and *Karlsen*.

Turning to the rejection, despite the admission from the Patent Office that *Morris* does not disclose the aforementioned feature of claim 1, the Applicant provides a brief explanation of *Morris* prior to discussing *Karlsen*. In the Office Action, the Patent Office cited paragraph **[0057]** of *Morris* in establishing that this reference discloses the feature of storing content in a data cache.[5] Regarding paragraph **[0057]**, the Applicant simply notes that this portion discloses buffering packets in a queue based on a quality of service (QoS) priority associated with a data stream to which the data packet belongs.[6] However, as admitted by the Patent Office, *Morris* does not disclose storing content in a data cache such that a first data rate is supported by a gateway, where the first data rate is greater than a second data rate also supported by the gateway.

Karlsen does not overcome the problems of *Morris*. *Karlsen* relates to conferencing calls between terminals of a packet switched network and a circuit switched network that are connected through a gateway.[7] Paragraph **[0023]** of *Karlsen* expands on this concept. Specifically, *Karlsen* discloses that a node establishes a packet switched connection with a first terminal at a first data rate and circuit switched connection with a second terminal at a second data rate.[8] According to *Karlsen*, the first data rate is compared to the second data rate and, if the first data rate is lower than the second data rate, a first number of ISDN B-channels are

[3] *See* Final Office Action mailed December 30, 2013, page 11.
[4] *See* Final Office Action mailed December 30, 2013, page 12.
[5] *See* Final Office Action mailed December 30, 2013, page 11.
[6] *See Morris*, parargraph **[0057]**.
[7] *See Karlsen*, paragraphs **[0005]** and **[0021]**.
[8] *See Karlsen*, paragraph **[0023]**.

disconnected in order to form a circuit switched connection.[9] Nonetheless, as noted above, claim 1 recites storing content in a data cache such that a first data rate is supported by a gateway, where the first data rate is greater than a second data rate also supported by the gateway. *Karlsen* does not disclose any type of storing operation. Instead, as mentioned above, *Karlsen* discloses disconnecting ISDN B-channels. Moreover, the combination of *Morris* and *Karlsen* does not render the above-noted feature of claim 1 unpatentable. In particular, previously discussed, *Morris* discloses buffering packets in a queue based on QoS priorities. Thus, the combination of *Morris* and *Karlsen* would result in buffering packets based on QoS priorities and then disconnecting ISDN channels to form a circuit switched connection. The Applicant submits that the combination would not result in storing packets in a data cache such that a first data rate is supported by a gateway. Therefore, claim 1 is patentable over the cited references and the Applicant requests that the rejection be withdrawn. Likewise, claims 4-10, 14-19, 30, and 32, which depend from claim 1, are patentable for at least the same reasons along with the novel features recited therein.

Claim 21 recites a method comprising, among other features, "transmitting the content from the data cache to a corresponding one of a plurality of user devices within the second network at a second data rate of the second network that is less than the first data rate of the first network, wherein the content is offloaded to the data cache such that the first and second data rates are supported." As detailed above, the combination of *Morris* and *Karlsen* does not disclose or suggest offloading content to a data cache such that first and second data rates, which are different from one another, are supported. As such, claim 21 is patentable over the cited references and the Applicant requests that the rejection be withdrawn. Similarly, claims 24, 26, 32, and 33, which depend from claim 21, are patentable for at least the same reasons along with the novel features recited therein.

Claims 2 and 22 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Morris* in view of *Karlsen* and further in view of U.S. Patent No. 5,278,834 to *Mazzola* (hereinafter "*Mazzola*"). The Applicant respectfully traverses the rejection. As detailed above, claims 1 and 21, the base claims from which claims 2 and 22 respectively depend, are patentable over *Morris* and *Karlsen*. In addition, *Mazzola* does not address the problems of *Morris* and

[9] *See Karlsen*, paragraph **[0023]**.

Karlsen. Accordingly, claims 2 and 22 are patentable over the cited references and the Applicant requests that the rejection be withdrawn.

Claims 3 and 23 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Morris* in view of *Karlsen* and further in view of U.S. Patent No. 5,818,838 to *Backes et al.*(hereinafter "*Backes*"). The Applicant respectfully traverses the rejection. As previously mentioned, claims 1 and 21, from which claims 3 and 23 depend, are patentable over *Morris* and *Karlsen*. In addition, the Applicant has reviewed *Backes* and submits that *Backes* does not overcome the shortcomings of both *Morris* and *Karlsen*. Thus, claims 3 and 23 are patentable over the cited references and the Applicant requests that the rejection be withdrawn.

Claims 11, 12, and 20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Morris* in view of *Karlsen* and further in view of U.S. Patent Application Publication No. 2009/0133116 A1 to *Waisbard* (hereinafter "*Waisbard*"). The Applicant respectfully traverses the rejection. As discussed above, claims 1 and 21, the base claims from which claims 11, 12, and 20 respectively depend, are patentable over *Morris* and *Karlsen*. Furthermore, *Waisbard* does not disclose the features missing from both *Morris* and *Karlsen*. As such, claims 11, 12, and 20 are patentable over the cited references and the Applicant requests that the rejection be withdrawn.

Claims 34-38 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Morris* in view of *Waisbard*. The Applicant respectfully traverses the rejection. More specifically, claim 34 recites a gateway device comprising, among other features, "a DRM encoder for encoding the converted content for authorized devices of a second network." The Applicant submits that neither *Morris* nor *Waisband*, either alone or in combination, disclose or suggest a DRM encoder for encoding converted content for authorized devices of a second network. As correctly pointed out by the Patent Office, *Morris* does not disclose this feature.[10] Nonetheless, in maintaining the rejection, the Patent Office asserts that *Waisband* discloses this feature in paragraph **[0071]**.[11] The Applicant respectfully disagrees.

Waisband generally relates to managing time information in the context of DRM systems.[12] In particular, *Waisband* discloses a rights validator 10 having a time-based query

[10] *See* Final Office Action mailed December 30, 2013, page 24.
[11] *See* Final Office Action mailed December 30, 2013, page 25.
[12] *See Waisband*, paragraph **[0004]**.

FOR DISCUSSION PURPOSES ONLY
PLEASE DO NOT ENTER

response module 30.[13] The time-based query response module 30 is associated with trusted time source 40, a semi-trusted time source 45, an elapsed time source 50, and an event source 55.[14] Paragraph **[0071]** of *Waisband* expands on the functionality of the right validator 10 in relation to the trusted time source 40, the semi-trusted time source 45, the elapsed time source 50, and the event source 55. In particular, the cited portion discloses that if there is a need to change, add, and delete any of the time or event sources, either code or data contained within the rights validator 10 makes either the change, addition, or deletion.[15] However, s noted above, claim 33 recites a DRM encoder for encoding converted content for authorized devices of a second network. Nowhere do the cited portions make any mention about any of this subject matter.

In addition, claim 34 recites "a second interface for transmitting the encoded content over the second network." Initially, the Applicant notes that the Patent Office has not shown where, exactly, the prior art discloses or suggests this feature. Furthermore, the Applicant has reviewed the cited references and submits that nowhere do the cited references disclose or suggest "a second interface for transmitting the encoded content over the second network." For at least this reason and the reasons noted above, claim 33 is patentable over the cited references and the Applicant requests that the rejection be withdrawn. Likewise, claims 35-38, which depend from claim 34, are patentable for at least the same reasons along with the novel features recited therein.

The present application is now in a condition for allowance and such action is respectfully requested. The Examiner is encouraged to contact the Applicant's representative regarding any remaining issues in an effort to expedite allowance and issuance of the present application.

Respectfully submitted,
WITHROW & TERRANOVA, P.L.L.C.

[13] *See Waisband*, Figure 1 and paragraph **[0057]**.
[14] *See Waisband*, Figure 1 and paragraphs **[0059]** – **[0062]**.
[15] *See Waisband*, paragraph **[0071]**.

FOR DISCUSSION PURPOSES ONLY
PLEASE DO NOT ENTER

By:

Anthony J. Josephson
Registration No. 45,742
100 Regency Forest Drive, Suite 160
Cary, NC 27518
Telephone: (919) 238-2300

Date: xxxxx
Attorney Docket: 1104-111C

FOR DISCUSSION PURPOSES ONLY
PLEASE DO NOT ENTER

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Gregory M. Evans
Serial No. 13/329,992
Filed: 12/19/2011
Attorney Docket No. 1104-111C
For: **HIGH-SPEED WAN TO WIRELESS LAN GATEWAY**

Examiner: Warner Wong
Art Unit: 2469

Mail Stop AF
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

RESPONSE TO THE FINAL OFFICE ACTION MAILED MARCH 10, 2014

In response to the Final Office Action mailed March 10, 2014, the Applicant offers the following amendments and remarks. If any fees are required in association with this response, the Director is hereby authorized to charge them to Deposit Account 50-1732, and consider this a petition therefor.

In the Claims:

1. (Currently Amended) A gateway interconnecting a first network to a second network comprising:

an offload engine that includes a number of protocol stack layers from a protocol stack of the gateway and is implemented in a cross-layer architecture enabling communication between non-adjacent layers in the protocol stack;

a secure data cache associated with the offload engine;

a non-secure data cache;

a network interface communicatively coupling the offload engine to the first network and providing a first data rate; and

an interface associated with the offload engine and adapted to communicate with a plurality of user devices within the second network, the interface providing a second data rate that is less than the first data rate of the network interface;

wherein the offload engine is adapted to:

receive content from the first network via the network interface at the first data rate;

store the content in the non-secure data cache such that the first data rate is supported by the gateway; and

transmit the content from the data cache to a corresponding one of the plurality of user devices in the second network via the interface at the second data rate.

2. (Cancelled).

3. (Previously Presented) The gateway of claim 1 wherein the network interface is coupled to the second network via a Fiber-to-the-Home (FTTH) connection.

4. (Previously Presented) The gateway of claim 1 wherein the interface operates according to one of the plurality of IEEE 802.11 standards.

5. (Original) The gateway of claim 1 wherein the first data rate provided by the network interface is at least 1 Gigabit per second (Gbps).

6. (Previously Presented) The gateway of claim 5 wherein the second data rate provided by the second network is less than or equal to 500 Megabits per second (Mbps).

7. (Previously Presented) The gateway of claim 1 further comprising a rule check engine adapted to inspect the content from the first network based upon at least one rule prior to transmitting the content to the corresponding one of the plurality of user devices in the second network.

8. (Previously Presented) The gateway of claim 7 wherein the rule check engine performs a stateful inspection of the content.

9. (Previously Presented) The gateway of claim 7 wherein the rule check engine performs a stateless inspection of the content.

10. (Original) The gateway of claim 7 wherein the at least one rule comprises at least one intrusion detection rule for detecting malicious network traffic.

11. (Original) The gateway of claim 7 wherein the at least one rule comprises at least one Digital Rights Management (DRM) rule.

12. (Previously Presented) The gateway of claim 11 further comprising a DRM function initiated by the rule check engine based on the at least one DRM rule.

13. (Previously Presented) The gateway of claim 12 wherein:

the rule check engine is further adapted to inspect the content based on the at least one DRM rule to identify data to be processed by the DRM function and initiate the DRM function for the identified data; and

the DRM function is adapted to encode the identified data such that encoded data is transmitted to the corresponding one of the plurality of user devices within the second network, and provide license keys for decoding the encoded data to desired ones of the plurality of user devices having permission to consume the encoded data.

14. (Previously Presented) The gateway of claim 7 wherein the at least one rule comprises at least one content rule identifying a type of content to block from entering the second network.

15. (Previously Presented) The gateway of claim 1 further comprising a file format conversion function adapted to convert the content that is in a first file format to a second file format having lesser bandwidth requirements.

16. (Previously Presented) The gateway of claim 1 further comprising a conversion function adapted to convert the content corresponding to a media file having a first quality to a media file having a lesser quality, thereby reducing bandwidth requirements for transferring the media file over the second network.

17. (Previously Presented) The gateway of claim 1 further comprising a rule check engine adapted to:

inspect the content to identify data in a specified file format; and

initiate a file format conversion function adapted to convert the content to a new file format having lesser bandwidth requirements prior to transmission of the identified data over the second network.

18. (Previously Presented) The gateway of claim 1 further comprising a rule check engine adapted to:

inspect the content to identify data corresponding to a media file in a specified file format; and

initiate a conversion function adapted to reduce a quality of the media file prior to transmission of the identified data over the second network.

19. (Currently Amended) The gateway of claim 1 wherein the offload engine is further adapted to:

receive outgoing data from one of the plurality of user devices within the second network at the second data rate provided by the interface;

buffer the outgoing data in the non-secure data cache; and

transmit the outgoing data from the non-secure data cache to a desired end point via the network interface at the first data rate of the network interface.

20. (Previously Presented) The gateway of claim 19 further comprising:

a rule check engine adapted to inspect the outgoing data to identify data desired to be encoded prior to transmission over the first network; and

a Digital Rights Management (DRM) encoding function adapted to encode the identified data prior to transmission over the first network.

21. (Currently Amended) A method of interconnecting a first network and a second network comprising:

receiving content from the first network at a first data rate;

offloading the content to a data cache; [[and]]

transmitting the content from the data cache to a corresponding one of a plurality of user devices within the second network at a second data rate of the second network that is less than the first data rate of the first network, wherein the content is offloaded to the data cache such that the first and second data rates are supported;

inspecting the content in the data cache based on at least one Digital Rights Management (DRM) rule to identify data to be processed by a DRM function;

encode the identified data using the DRM function such that the encoded data is transmitted to the corresponding one of the plurality of user devices within the second network; and

providing license keys for decoding the encoded data to desired ones of the plurality of user devices having permission to consume the encoded data.

22. (Previously Presented) The method of claim 21 wherein transmitting the content from the data cache comprises transmitting the content from the data cache according to an adaptable cross-layering scheme.

23. (Previously Presented) The method of claim 21 wherein receiving the content comprises receiving the content from the second network via a Fiber-to-the-Home (FTTH) connection.

24. (Previously Presented) The method of claim 21 further comprising inspecting the content from the second network in the data cache based upon at least one rule prior to transmitting the content to the corresponding one of the plurality of user devices in the second network.

25. (Cancelled).

26. (Previously Presented) The method of claim 21 further comprising:

inspecting the content to identify data in a specified file format;

converting the identified data to a new file format having lesser bandwidth requirements; and

transmitting the identified data in the new file format to the corresponding one of the plurality of user devices within the second network.

27. (Previously Presented) The method of claim 21 further comprising:

inspecting the content to identify data corresponding to a media file in a specified file format;

reducing a quality of the media file, thereby reducing bandwidth requirements of the media file; and

transmitting the reduced quality media file to the corresponding one of the plurality of user devices in the second network.

28-29. (Cancelled).

30. (Previously Presented) The gateway of claim 1 wherein the first network is a Wide Area Network (WAN).

31. (Previously Presented) The gateway of claim 1 wherein the second network is a Local Area Network (LAN).

32. (Previously Presented) The gateway of claim 21 wherein the first network is a Wide Area Network (WAN).

33. (Previously Presented) The gateway of claim 21 wherein the second network is a Local Area Network (LAN).

34. (Previously Presented) A gateway device comprising:

a first interface for receiving content at a first data rate in a first format from a first network;

a data cache for storing the content;

a rules check engine for determining Digital Rights Management (DRM) rules for the content;

a format conversion function for processing the content from the first format to a second format having a different data rate requirement;

a DRM encoder for encoding the converted content for authorized devices of a second network; and

a second interface for transmitting the encoded content over the second network.

35. (Previously Presented) The gateway of claim 34 wherein the first network is a Wide Area Network (WAN).

36. (Previously Presented) The gateway of claim 34 wherein the second network is a Local Area Network (LAN).

37. (Previously Presented) The gateway of claim 36 wherein the LAN is a Wireless Local Area Network (WLAN).

38. (Previously Presented) The gateway of claim 37 wherein the WLAN operates according to one of the 802.11 standards.

REMARKS

The Applicant has carefully reviewed the Final Office Action mailed March 10, 2014, (hereinafter "Office Action") and offer the following remarks to accompany the above amendments.

Initially, the Applicant thanks the Patent Office for allowing claims 34-38 and indicating that claims 13 and 25 include allowable subject matter. As shown above, claim 21 has been amended to include the allowable subject matter of claim 25. Therefore, claim 21 is in a condition for allowance. Moreover, claim 1 has been amended as noted above. During an Examiner interview conducted between the Applicant's representative, Tony Josephson, and Examiner Wong on February 14, 2014, Examiner Wong kindly agreed that the amendments to claim 1 noted above would place the claim in a condition for allowance. As such, claim 1 is now in a condition for allowance.

Claims 1-27 were rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-21 of U.S. Patent No. 8,102,863. The Applicant will address the rejection once the pending claims are indicated as being allowable. Moreover, the Applicant reserves the right to file a Terminal Disclaimer or otherwise address the rejection at a later time.

Claims 1, 4-10, 14-19, 21, 24, and 26-33 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application Publication No. 2009/0067328 A1 to *Morris et al.* (hereinafter "*Morris*") in view of U.S. Patent Application Publication No. 2004/0252651 A1 to *Karlsen et al.* (hereinafter "*Karlsen*"). Claims 2 and 22 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Morris* in view of *Karlsen* and further in view of U.S. Patent No. 5,278,834 to *Mazzola*. Claims 3 and 23 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Morris* in view of *Karlsen* and further in view of U.S. Patent No. 5,818,838 to *Backes et al.* Claims 11, 12, and 20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Morris* in view of *Karlsen* and further in view of U.S. Patent Application Publication No. 2009/0133116 A1 to *Waisbard et al.* Claim 2 has been cancelled, thereby rendering the rejection of this claim moot. Claims 28 and 29 were previously cancelled, thereby rendering the rejection of these claims moot. Regarding the remaining claims, claims 1 and 21, the pending independent claims that currently stand rejected, have been amended to include subject matter, which the Patent Office has indicated is allowable. Therefore, these claims are in

a condition for allowance. Likewise, claims 3-20, 22-24, 26, 27, and 30-33, which depend from either claim 1 or claim 21, are also in a condition for allowance.

Although the present response may include alterations to the application or claims, or characterizations of claim scope or referenced art, the Applicants are not conceding that the previously pending claims are unpatentable over the cited references. Rather, any alterations or characterizations are being made to facilitate expeditious prosecution of this application.

The present application is now in a condition for allowance and such action is respectfully requested. The Examiner is encouraged to contact the Applicants' representative regarding any remaining issues in an effort to expedite allowance and issuance of the present application.

Respectfully submitted,
WITHROW & TERRANOVA, P.L.L.C.

By: /Anthony J. Josephson/

Anthony J. Josephson
Registration No. 45,742
100 Regency Forest Drive, Suite 160
Cary, NC 27518
Telephone: (919) 238-2300

Date: April 28, 2014
Attorney Docket: 1104-111C

Electronic Acknowledgement Receipt

EFS ID:	18873390
Application Number:	13329992
International Application Number:	
Confirmation Number:	3088
Title of Invention:	HIGH-SPEED WAN TO WIRELESS LAN GATEWAY
First Named Inventor/Applicant Name:	Gregory Morgan Evans
Customer Number:	74548
Filer:	Benjamin Withrow/Rebecca MacDermut
Filer Authorized By:	Benjamin Withrow
Attorney Docket Number:	1104-111C
Receipt Date:	28-APR-2014
Filing Date:	19-DEC-2011
Time Stamp:	13:07:32
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		1104-111C_OAF_Response_04-28-14.pdf	332719 51ae60c7db81cedf6fe356683ddf5bb19dacb7c2	yes	10

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Response After Final Action	1	1
	Claims	2	8
	Applicant Arguments/Remarks Made in an Amendment	9	10
Warnings:			
Information:			
	Total Files Size (in bytes):	332719	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 13/329,992	Filing Date 12/19/2011	☐ To be Mailed

ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

	(Column 1)	(Column 2)		
FOR	NUMBER FILED	NUMBER EXTRA	RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT	04/28/2014	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 34	Minus	** 36	= 0	X $80 =	0
	Independent (37 CFR 1.16(h))	* 3	Minus	***3	= 0	X $420 =	0
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
						TOTAL ADD'L FEE	0

AMENDMENT		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =	
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
						TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
/VIKKI GRAY/

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

74548 7590 06/24/2014

FlashPoint Technology and Withrow & Terranova
100 Regency Forest Drive
Suite 160
Cary, NC 27518

EXAMINER
WONG, WARNER

ART UNIT	PAPER NUMBER
2469	

DATE MAILED: 06/24/2014

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/329,992	12/19/2011	Gregory Morgan Evans	1104-111C	3088

TITLE OF INVENTION: HIGH-SPEED WAN TO WIRELESS LAN GATEWAY

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$960	$0	$0	$960	09/24/2014

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

74548 7590 06/24/2014
FlashPoint Technology and Withrow & Terranova
100 Regency Forest Drive
Suite 160
Cary, NC 27518

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission
I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/329,992	12/19/2011	Gregory Morgan Evans	1104-111C	3088

TITLE OF INVENTION: HIGH-SPEED WAN TO WIRELESS LAN GATEWAY

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$960	$0	$0	$960	09/24/2014

EXAMINER	ART UNIT	CLASS-SUBCLASS
WONG, WARNER	2469	370-401000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).
- ❑ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ❑ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.
1 _____
2 _____
3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ❑ Individual ❑ Corporation or other private group entity ❑ Government

4a. The following fee(s) are submitted:
- ❑ Issue Fee
- ❑ Publication Fee (No small entity discount permitted)
- ❑ Advance Order - # of Copies _____

4b. Payment of Fee(s): (**Please first reapply any previously paid issue fee shown above**)
- ❑ A check is enclosed.
- ❑ Payment by credit card. Form PTO-2038 is attached.
- ❑ The Director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)
- ❑ Applicant certifying micro entity status. See 37 CFR 1.29 — NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
- ❑ Applicant asserting small entity status. See 37 CFR 1.27 — NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
- ❑ Applicant changing to regular undiscounted fee status. — NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

PTOL-85 Part B (10-13) Approved for use through 10/31/2013. OMB 0651-0033 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/329,992	12/19/2011	Gregory Morgan Evans	1104-111C	3088

74548 7590 06/24/2014

FlashPoint Technology and Withrow & Terranova
100 Regency Forest Drive
Suite 160
Cary, NC 27518

EXAMINER	
WONG, WARNER	

ART UNIT	PAPER NUMBER
2469	

DATE MAILED: 06/24/2014

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No. 13/329,992	Applicant(s) EVANS, GREGORY MORGAN	
	Examiner WARNER WONG	Art Unit 2469	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *28 April 2014*.
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on_____.
2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
3. ☒ The allowed claim(s) is/are *1,3-24,26,27 and 30-38*. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov .
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   Certified copies:

   a) ☐ All b) ☐ Some *c) ☐ None of the:
   1. ☐ Certified copies of the priority documents have been received.
   2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
   3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
5. ☐ Examiner's Amendment/Comment
6. ☒ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

/WARNER WONG/
Primary Examiner, Art Unit 2469

The present application is being examined under the pre-AIA first to invent provisions.

REASON FOR ALLOWANCE

Applicant has incorporated allowable subject matter (either discussed per interview dated 14 February 2013 or previously objected to) for each of the remaining independent claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to WARNER WONG whose telephone number is (571)272-8197. The examiner can normally be reached on 6:30AM - 4:00PM, M-R.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ian Moore can be reached on (571) 272-3085. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Warner Wong
Primary Examiner
Art Unit 2469

/WARNER WONG/
Primary Examiner, Art Unit 2469

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13329992	EVANS, GREGORY MORGAN
	Examiner	Art Unit
	WARNER WONG	2469

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
370	401	6/12/2013	WW
709		6/12/2013	WW

SEARCH NOTES		
Search Notes	Date	Examiner
Inventor and assignee names searches; keyword searches using subclasses	6/12/2013	WW
updated search	12/16/2013	WW
updated search	3/6/2014	WW
updated search	6/4/2014	WW

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner
	interferrence search history	6/4/2014	WW

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/329,992	11/04/2014	8879567	1104-111C	3088

74548 7590 10/15/2014

FlashPoint Technology and Withrow & Terranova
100 Regency Forest Drive
Suite 160
Cary, NC 27518

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment is 63 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site http://pair.uspto.gov for additional applicants):

Gregory Morgan Evans, Raleigh, NC;

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Gregory M. Evans
Serial No. 13/329,992
Filed: 12/19/2011
Attorney Docket No. 1104-111C
For: **HIGH-SPEED WAN TO WIRELESS LAN GATEWAY**

Examiner: Warner Wong
Art Unit: 2469

Attention Certificate of Corrections Branch
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

REQUEST FOR CERTIFICATE OF CORRECTION

Please find enclosed a request for a Certificate of Correction of the above-referenced issued patent. The errors corrected are typographical in nature and no new matter is added by this correction. Since the errors were caused by the Applicant, a fee of $100.00 is enclosed. If any additional fees are required the Director is authorized to charge them to Deposit Account 50-1732 and consider this a petition therefor.

Respectfully submitted,

WITHROW & TERRANOVA, P.L.L.C.

By: /Anthony J. Josephson/

Anthony J. Josephson
Registration No. 45,742
100 Regency Forest Drive, Suite 160
Cary, NC 27518
Telephone: (919) 238-2300

Date: November 10, 2014
Attorney Docket: 1104-111C

PTO/SB/44 (09-07)
Approved for use through 08/31/2013. OMB 0651-0033
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

(Also Form PTO-1050)

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 8,879,567

APPLICATION NO.: 13/329,992

ISSUE DATE : 11/04/2014

INVENTOR(S) : Gregory M. Evans

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In column 9, at line 36, replace "encode" with --encoding--.

MAILING ADDRESS OF SENDER (Please do not use customer number below):

Withrow & Terranova, PLLC
100 Regency Forest Drive, Suite 160
Cary, NC 27518

Electronic Patent Application Fee Transmittal

Application Number:	13329992
Filing Date:	19-Dec-2011
Title of Invention:	HIGH-SPEED WAN TO WIRELESS LAN GATEWAY
First Named Inventor/Applicant Name:	Gregory Morgan Evans
Filer:	Benjamin Withrow/Rebecca MacDermut
Attorney Docket Number:	1104-111C

Filed as Large Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Certificate of Correction	1811	1	100	100
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
		Total in USD ($)		**100**

Electronic Acknowledgement Receipt	
EFS ID:	20646270
Application Number:	13329992
International Application Number:	
Confirmation Number:	3088
Title of Invention:	HIGH-SPEED WAN TO WIRELESS LAN GATEWAY
First Named Inventor/Applicant Name:	Gregory Morgan Evans
Customer Number:	74548
Filer:	Benjamin Withrow/Rebecca MacDermut
Filer Authorized By:	Benjamin Withrow
Attorney Docket Number:	1104-111C
Receipt Date:	10-NOV-2014
Filing Date:	19-DEC-2011
Time Stamp:	09:50:16
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	$100
RAM confirmation Number	7516
Deposit Account	501732
Authorized User	JOSEPHSON, ANTHONY J.
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees) Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)	

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)
Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)
Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Request for Certificate of Correction	1104-111C_Request_Certificate_Correction_11-10-14.pdf	39577 d064ce701fdf4b4333cb5cfe4ef32cd5c4aa8636	no	1
Warnings:					
Information:					
2	Request for Certificate of Correction	1104-111C_Certificate_Correction_Form.pdf	108318 3baedba7cf1f2e15c8eb1434cc2701db87fbe5b0	no	1
Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	30323 96d37da08525d0273afba905fc3192776adc81a2	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	178218		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO.	: 8,879,567 B1
APPLICATION NO.	: 13/329992
DATED	: November 4, 2014
INVENTOR(S)	: Gregory M. Evans

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In the Claims

In column 9, at line 36, replace “encode” with --encoding--.

Signed and Sealed this
Tenth Day of February, 2015

Michelle K. Lee

Michelle K. Lee
Deputy Director of the United States Patent and Trademark Office