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UTILITY PATENT APPLICATION TRANSMITTAL <i>(Only for new nonprovisional applications under 37 CFR 1.53(b))</i>	Attorney Docket No.	2282/109
	First Inventor	Rodriguez et al.
	Title	Modular Data Communication Equipment System
	Express Mail Label No.	EL915238255US

APPLICATION ELEMENTS <i>See MPEP chapter 600 concerning utility patent application contents.</i>	ADDRESS TO: Assistant Commissioner for Patents Box Patent Application Washington, DC 20231
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1. <input type="checkbox"/> Fee Transmittal Form (e.g., PTO/SB/17) <i>(Submit an original and a duplicate for fee processing)</i> 2. <input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. 3. <input checked="" type="checkbox"/> Specification [Total Pages <u>22</u>] <i>(preferred arrangement set forth below)</i> - Descriptive title of the invention - Cross Reference to Related Applications - Statement Regarding Fed sponsored R & D - Reference to sequence listing, a table, or a computer program listing appendix - Background of the Invention - Brief Summary of the Invention - Brief Description of the Drawings (if filed) - Detailed Description - Claim(s) - Abstract of the Disclosure 4. <input checked="" type="checkbox"/> Drawing(s) (35 U.S.C. 113) [Total Sheets <u>6</u>] 5. Oath or Declaration [Total Pages <u>8</u>] a. <input checked="" type="checkbox"/> Newly executed (original or copy) Copy from a prior application (37 CFR 1.63 (d)) (for continuation/divisional with Box 18 completed) b. <input type="checkbox"/> DELETION OF INVENTOR(S) Signed statement attached deleting inventor(s) named in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b) 6. <input checked="" type="checkbox"/> Application Data Sheet. See 37 CFR 1.76	7. <input type="checkbox"/> CD-ROM or CD-R in duplicate, large table or Computer Program (Appendix) 8. Nucleotide and/or Amino Acid Sequence Submission <i>(if applicable, all necessary)</i> a. <input type="checkbox"/> Computer Readable Form (CRF) b. Specification Sequence Listing on: i. <input type="checkbox"/> CD-ROM or CD-R (2 copies); or ii. <input type="checkbox"/> paper c. <input type="checkbox"/> Statements verifying identity of above copies
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ACCOMPANYING APPLICATION PARTS	
9. <input checked="" type="checkbox"/> Assignment Papers (cover sheet & document(s)) 10. <input type="checkbox"/> 37 CFR 3.73(b) Statement <input type="checkbox"/> Power of Attorney <i>(when there is an assignee)</i> 11. <input type="checkbox"/> English Translation Document (if applicable) 12. <input type="checkbox"/> Information Disclosure Statement (IDS)/PTO-1449 <input type="checkbox"/> Copies of IDS Citations 13. <input type="checkbox"/> Preliminary Amendment 14. <input checked="" type="checkbox"/> Return Receipt Postcard (MPEP 503) <i>(Should be specifically itemized)</i> 15. <input type="checkbox"/> Certified Copy of Priority Document(s) <i>(if foreign priority is claimed)</i> 16. <input checked="" type="checkbox"/> Request and Certification under 35 U.S.C. 122 (b)(2)(B)(i). Applicant must attach form PTO/SB/35 or its equivalent. 17. <input type="checkbox"/> Other:	

18. If a CONTINUING APPLICATION, check appropriate box, and supply the requisite information below and in a preliminary amendment, or in an Application Data Sheet under 37 CFR 1.76:

Continuation Divisional Continuation-in-part (CIP) of prior application No. 09, 753,014
 Prior application information Examiner _____ Group Art Unit _____

For CONTINUATION OR DIVISIONAL APPS only: The entire disclosure of the prior application, from which an oath or declaration is supplied under Box 5b, is considered a part of the disclosure of the accompanying continuation or divisional application and is hereby incorporated by reference. The incorporation can only be relied upon when a portion is omitted from the submitted application parts.

19. Customer Number or Bar Code Label  or Correspondence address below

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Signature		Date	June 19, 2001

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Complete if Known

Application Number	
Filing Date	June 19, 2001
First Named Inventor	Rodriguez et al.
Examiner Name	
Group / Art Unit	
Attorney Docket No.	2282/109

TOTAL AMOUNT OF PAYMENT (\$)**876.00**

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101 690	201 345	Utility filing fee	710.00
106 310	206 155	Design filing fee	
107 480	207 240	Plant filing fee	
108 690	208 345	Reissue filing fee	
114 150	214 75	Provisional filing fee	

SUBTOTAL (1) (\$)**710.00**

2. EXTRA CLAIM FEES

Total Claims	Extra Claims	Fee from below	Fee Paid
Independent Claims	-20** = 7	X 18	= 126
Multiple Dependent Claims	-3** = 0	X 80	= 0
			= 0

**or number previously paid, if greater; For Reissues, see below

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description	Fee Paid
103 18	203 9	Claims in excess of 20	
102 78	202 39	Independent claims in excess of 3	
104 260	204 130	Multiple dependent claim, if not paid	
109 78	209 39	** Reissue independent claims over original patent	
110 18	210 9	** Reissue claims in excess of 20 and over original patent	

SUBTOTAL (2) (\$)**126.00**

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description	Fee Paid
105 130	205 65	Surcharge - late filing fee or oath	0.00
127 50	227 25	Surcharge - late provisional filing fee or cover sheet	0.00
139 130	139 130	Non-English specification	0.00
147 2,520	147 2,520	For filing a request for reexamination	0.00
112 920*	112 920*	Requesting publication of SIR prior to Examiner action	0.00
113 1,840*	113 1,840*	Requesting publication of SIR after Examiner action	0.00
115 110	215 55	Extension for reply within first month	0.00
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128 1,850	228 925	Extension for reply within fifth month	0.00
119 300	219 150	Notice of Appeal	0.00
120 300	220 150	Filing a brief in support of an appeal	0.00
121 260	221 130	Request for oral hearing	0.00
138 1,510	138 1,510	Petition to institute a public use proceeding	0.00
140 110	240 55	Petition to revive - unavoidable	0.00
141 1,210	241 605	Petition to revive - unintentional	0.00
142 1,210	242 605	Utility issue fee (or reissue)	0.00
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122 130	122 130	Petitions to the Commissioner	0.00
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128 240	128 240	Submission of Information Disclosure Stmt	0.00
581 40	581 40	Recording each patent assignment per property (times number of properties)	40.00
146 690	246 345	Filing a submission after final rejection (37 CFR § 1.129(a))	0.00
149 690	249 345	For each additional invention to be examined (37 CFR § 1.129(b))	0.00
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SUBMITTED BY

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Signature		Date	June 19, 2001		

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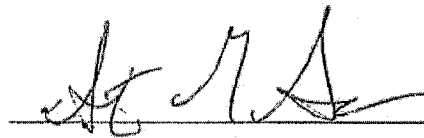
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REQUEST AND CERTIFICATION UNDER 35 U.S.C. 122(b)(2)(B)(i)	First Named Inventor	Rodriguez et al.
	Title	Modular Data Communication Equipment System
	Atty Docket Number	2282/109

I hereby 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 agreement, that requires publication at eighteen months after filing. I hereby request that the attached application not be published under 35 U.S.C. 122(b).

June 19, 2001

Date



Signature

Steven G. Saunders

Typed or printed name

This request must be signed in compliance with 37 CFR 1.33(b) and submitted with the application **upon filing**.

Applicant may rescind this nonpublication request at any time. If applicant rescinds a request that an application not be published under 35 U.S.C. 122(b), the application will be scheduled for publication at eighteen months from the earliest claimed filing date for which a benefit is claimed.

If applicant subsequently files an application directed to the invention disclosed in the attached application in another country, or under a multilateral international agreement, that requires publication of applications eighteen months after filing, the applicant **must** notify the United States Patent and Trademark Office of such filing within forty-five (45) days after the date of the filing of such foreign or international application. **Failure to do so will result in abandonment of this application (35 U.S.C. 122(b)(2)(B)(iii)).**

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EL915238255US

Practitioner's Docket No. 2282/109

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Rodriguez et al.

Application No.: Not yet assigned

Group No.: Not yet assigned

Filed: Herewith

Examiner: Not yet assigned

For: Modular Data Communication Equipment System

Commissioner for Patents
Box Patent Application
Washington, D.C. 20231

EXPRESS MAIL CERTIFICATE

"Express Mail" label number EL915238255US

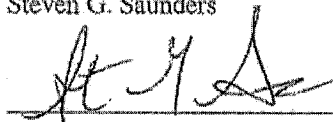
Date of Deposit June 19, 2001

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New Utility patent application and documents referenced therein

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(Express Mail Certificate--page 1 of 1)

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Application Information

Title Line One:: Modular Data Communication
 Title Line Two:: Equipment System
 Total Drawing Sheets:: 6
 Formal Drawings?:: Yes
 Application Type:: Utility
 Docket Number:: 2282/109

Representative Information

Representative Customer Number:: 002101

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION FOR UNITED STATES PATENT

FOR

MODULAR DATA COMMUNICATION
EQUIPMENT SYSTEM

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MODULAR DATA COMMUNICATION EQUIPMENT SYSTEM

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PRIORITY

This application claims priority from U.S. patent application number 09/753,014, filed January 2, 2001, and entitled, "MODULAR DATA COMMUNICATION EQUIPMENT SYSTEM." The disclosure of that application is incorporated herein, in its entirety, by reference.

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FIELD OF THE INVENTION

The invention relates generally to data transmission networks and, more particularly, the invention relates to data communication equipment for use by data termination equipment.

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BACKGROUND OF THE INVENTION

Different network services, such as cable television and telephone services, traditionally have been developed for use over different types of networks. For example, telephone services traditionally has been developed around the public switched telephone network (the "PSTN"), while cable television services traditionally have been developed around the cable television network.

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To provide a network service, a network access device (commonly known to as "Data Communications Equipment" or "DCE") commonly is used to connect a network device (*e.g.*, a telephone or television) to the network. More particularly, the DCE provides network devices known as "Data Termination Equipment" ("DTE") with access to their underlying network. For additional information relating to DCEs and DTEs, see the family of standards relating to recommended standard-232 (often referred to as "RS-232"), which is a widely

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used standard interface approved by the Electronic Industries Alliance ("EIA") for connecting serial devices.

The above noted interrelationship between service and network type has caused the network service industry to develop network access equipment (DCEs) that provides a specific service over its corresponding traditional network only. Continuing with the above example, the provision of cable television services commonly requires use of a cable conversion box ("cable box," which is a type of DCE) that provides the direct connection to the cable network. In a manner similar to DCEs for other types of networks/services, the cable box typically includes medium interface circuitry for conforming data transmissions with the specifications required by cable networks (*e.g.*, the well known DOCSIS standards, discussed herein), and service delivery circuitry that provides the higher level television services to a connected television (*i.e.*, functions perceived by the user of the DTE). Among other functions, such service delivery circuitry may provide access to a selected set of television stations (*e.g.*, based upon a user's subscription to a cable company), and channel mapping functionality that maps a cable channel to a channel on the attached television.

In recent years, however, the trend has been to provide a single service via any one of numerous different types of networks. For example, telephone services currently can be delivered via the circuit switched technology in the PSTN, or via a broadband network, such as a cable network or fiber optic network. Accordingly, a single DCE for use with the telephone services must be produced for use with each network/medium type. For example, a separate telephony DCE must be developed for use with each of cable networks, fiber optic networks, wireless networks, etc With the proliferation of network services and broadband types/uses, this requires a rather wide variety of DCEs for each service, and for each network type. Although currently necessary, this

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duplication is inefficient, and causes relatively high deployment costs for various network services and network types.

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SUMMARY OF THE INVENTION

In accordance with one aspect of the invention, a network interface unit includes an interface module for translating messages transmitted between one of a family of different types of service delivery units. Each type of service delivery unit provides a network service that is different than the network service provided by the other types of service delivery units in the family. The service delivery unit connected to the network interface unit processes messages received in a first format. The network interface unit thus includes a medium module configured to process data for transmission between the given medium and the service delivery unit, and the interface module. The medium module transmits messages toward the service delivery unit in a second format. The interface module is configured to receive messages transmitted between the medium module and the service delivery unit. The interface module is configured to translate messages from the second format to the first format.

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In some embodiments, the service delivery unit transmits messages in the first format, and the medium module processes messages received in the second format. Accordingly, the interface module also is configured for translating messages from the first format to the second format.

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All the different types of service delivery units in the family may process data in the first format, or only one type of service delivery unit may process data in the first format. In the latter case, the other types of service delivery units in the family process data in different formats. The given medium may be a broadband medium, such as fiber optic technology, cable technology, or digital subscriber line technology. The network service may include at least one of

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telephony, data service, audio service, video service, and Virtual Private Network service.

5 The network unit interface also may include a connector for electrically and physically connecting to the service delivery unit. The connector is a single size that corresponds to the size of connectors on each of the types of service delivery units in the family. Among other things, the medium module includes a network physical layer and media control module. The network interface unit preferably is physically separated from the service delivery unit. The service delivery unit and network interface unit cooperate to act as data communication equipment for data terminal equipment.

10 In accordance with another aspect of the invention, a service delivery unit for providing a network service cooperates with a network interface unit to function as data termination equipment. The network interface unit is one type of a plurality of different types of network interface units. Each type of network interface unit has connection logic for connecting to a network medium that is different than the network mediums to which the other types of network interface units can connect. The network interface unit processes messages in a first format. The service delivery unit thus includes a network service module that provides the network service, and an interface module for intercepting and translating messages transmitted between the network service module and the network interface unit. The network service module transmits messages toward the network interface unit in a second format. The interface module is configured to translate messages from the second format to the first format.

15 20 25 In accordance with other aspects of the invention, a modular data communication equipment system includes a family of different types of network interface units, a family of different types of service delivery units, and an interface configured to convert the format of messages transmitted between any one type of the network interface units and any one type of the service

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delivery units. Each type of network interface unit has connection logic for connecting to a network medium that is different than the connection media to which the other types of network interface units can connect. In a similar manner, each type of service delivery unit provides a network service that is different than the service provided by the other types of service delivery units. The network interface units are configured to communicate with at least one service delivery unit via formatted messages that, as noted above, are converted by the interface.

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BRIEF DESCRIPTION OF THE DRAWINGS

The foregoing and advantages of the invention will be appreciated more fully from the following further description thereof with reference to the accompanying drawings wherein:

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Figure 1 schematically shows an exemplary network that may be used in connection with illustrative embodiments of the invention.

Figure 2 schematically shows a modular network access system configured in accordance with illustrative embodiments of the invention.

Figure 3 schematically shows the modular network access system shown in figure 2 in which an interface is located solely on a network interface unit.

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Figure 4 schematically shows the modular network access system shown in figure 2 in which an interface is located solely on a service delivery unit.

Figure 5 schematically shows the modular network access system shown in figure 2 in which an interface is dispersed across a network interface unit and a service delivery unit.

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Figure 6 schematically shows a family of network interface units, a family of service delivery units, and their standard connectors.

Figure 7 schematically shows a specific implementation of the network access system shown in figure 2.

DESCRIPTION OF ILLUSTRATIVE EMBODIMENTS

In illustrative embodiments, a network access system includes a family of different types of network interface units that each can cooperate with any one
5 type of a family of different types of service delivery units to act as data communication equipment ("DCE"). To that end, each type of network interface unit and service delivery unit is both modular and functionally independent. Accordingly, any type of network interface unit preferably can physically and electrically connect with any type of service delivery unit to provide complete
10 DCE functionality. The disclosed network access system thus is configured to permit commonly used data terminal equipment (e.g., an Internet telephone) to execute various network services over various network types. Details and illustrative examples are discussed below.

Figure 1 schematically shows an exemplary network 10 that may be used
15 in connection with illustrative embodiments of the invention. The network 10 includes a local network device 12 that communicates with one or more of a plurality of different remote network devices 14 via the Internet 16. Among other things, the local network device 12 may be a computer system, IP telephone, or network appliance. To connect to the Internet 16, the local network
20 device 12 uses a network access system 18 (noted above and discussed in detail below) to connect to an Internet Service Provider ("ISP 20") via some network medium 22 (also referred to herein as "network type 22"). The local network device 12 and access system 18 are shown as being located at a customer's premises, such as in a single office.

25 The network medium 22 can be any known medium currently used in the art. Among other types, the network medium 22 may be a conventional twisted pair (e.g., telephone lines used for a Digital Subscriber Line), cable lines, fiber optic lines, a wireless medium (e.g., Bluetooth), or some combination thereof. As

known in the art, data transmissions across each type of network medium 22 must comply with a standard protocol. For example, if the network medium 22 is a cable network, then transmission across the medium 22 must comply with some accepted cable network data transmission standard, such as the "Data Over
5 Data-Over-Cable Service Interface Specification." For additional information relating to this standard, see "Data-Over-Cable Service Interface Specifications, Radio Frequency Interface Specification," which is a cooperative effort under the direction of Cable Television Laboratories, Inc., with a copyright of 1999 and 2000 and document control number SP-RF1v1.1-104-000407, the disclosure of
10 which is incorporated herein, in its entirety, by reference. This specification is commonly referred to in the art by the acronym "DOCSIS."

Although the network medium 22 is shown schematically as a single element, it may include two or more separate and distinct types of network media 22. For example, the network medium 22 may include a cable network
15 and a separate fiber optic network. In such case, the access system 18 provides access to both types of networks.

Figure 2 schematically shows additional details of the access system 18 shown in figure 1. Specifically, the access system 18 includes one unit of a family of different types of improved network interface units that provide the
20 necessary physical layer conversions and/or signal processing for transmission across a given network medium 22, and one unit of a family of different types of service delivery units 28 that provide the necessary logic for permitting a given network service to be performed by the network device 12. In addition, the access system 18 also includes a standard interface 30 for logically connecting the
25 network interface unit 26 with the service delivery unit. Details of these three different components of the access system 18 are discussed below. It should be noted that in some embodiments, the network interface units 26 may be referred

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to as network interface modules. In still other embodiments, the service delivery units 28 may be referred to as service delivery modules.

In particular, the network interface unit 26 includes a medium module 32 having hardware and software for implementing the appropriate physical layer and medium control processes required for transmitting data messages across the given network type 22. Stated another way, the medium module 32 implements the underlying specification for transmitting data across the network medium 22 to which it is attached. This functionality is independent of the service being provided by the service delivery unit. The medium module 32 may include a single element, or a plurality of different devices/modules for implementing the required function. By way of example, if the network medium 22 is a cable network, then the medium module 32 may include the hardware and software for implementing the DOCSIS standard (see figure 7, discussed below).

Of course, since the network interface unit 26 is but one type in a family of different types of network interface units 26, then a different type of network interface unit 26 may be constructed for each of various different network types 22. Accordingly, network interface units 26 can be constructed for use with cable networks, twisted pair networks implementing a digital subscriber line ("DSL"), fiber optic networks, and wireless networks, among others. The appropriate network interface unit 26 then is selected for use in the access system 18 based upon the network type 22 to which it is connected. In some embodiments (discussed below), multiple network interface units 26 can be used in conjunction with one or more service delivery units 28 within a single access system 18.

The service delivery unit 28 includes a network service module 34 for permitting the local network device 12 to execute a network service via the access system 18. As discussed in greater detail by example in figure 7, the network service module 34 includes hardware and/or software to process specific

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messages for implementing a given network service across some network. Of course, the network service module 34 provides the given service independently of the type of network medium 22 to which the access system 18 is connected. As noted above, examples of the network service module 34 and the service delivery units 28 are discussed below with reference to figure 7.

Each different type of network interface unit 26 may process data in a different format than the formats used by other types of network interface units 26. More particularly, a network interface unit 26 for use with a first network type 22 may receive and transmit messages within the access system 18 in a different format than a network interface unit 26 that is configured for use with a different network type 22. In a similar manner, each different type of service delivery unit 28 may process data in a different format than the formats used by other types of service delivery units 28. The interface 30 thus converts messages transmitted between the service delivery unit 28 and the network interface unit 26 into an appropriate format that is understandable to the receiving network interface unit 26 or service delivery unit 28.

Figures 3-5 schematically show several different types of interfaces 30 that may be used to convert messages forwarded between the network interface unit 26 and the service delivery unit 28. In all such figures, messages are schematically shown between the interface 30 and medium module 32 as being in a format that is specific to the medium module 32 and/or the network interface unit 26. This format is referred to herein as being "N.I.U. format." Conversely, messages between the interface 30 and the network service module 34 are in a format that is specific to the network service module 34 and/or the service delivery unit 28. This format is referred to herein as being "S.D.U. format."

Figure 3 schematically shows the interface 30 being entirely within the network interface unit 26. In such case, such network interface unit 26 transmits

messages to the accompanying service delivery unit 28 in a format that the service delivery unit 28 can interpret (*i.e.*, the S.D.U. format). In a similar manner, such network interface unit 26 can convert messages received from the service delivery unit 28 (*i.e.*, messages in the S.D.U. format) into the N.I.U. format for processing by the medium module 32 and other components within the network interface unit 26.

Figure 4 schematically shows the interface 30 being entirely within the service delivery unit 28. In such case, such service delivery unit 28 transmits messages to the accompanying network interface unit 26 in a format that the network interface unit 26 can interpret (*i.e.*, in the N.I.U. format). In a similar manner, such service delivery unit 28 can convert messages received from the network interface unit 26 (*i.e.*, messages received in the N.I.U. format) into the S.D.U. format for processing by the network service module 34 and other components within the service delivery unit 28.

For the interfaces 30 in figures 3 and 4 to be operate properly, they must be preprogrammed to convert from specific, predetermined formats of the accompanying network interface units 26 and service delivery units 28. More particularly, the interface 30 must be preprogrammed to be usable with one or more different format types of network interface units 26 and service delivery units 28. For example, the interface 30 in figure 3 may be preprogrammed to convert messages to/from a network interface unit 26 for a cable network, and messages to/from a service delivery units 28 providing telephone services. Accordingly, such network interface unit 26 can couple with any service delivery units 28 providing telephone services. Conversely, if such network interface unit 26 is coupled with a service delivery unit 28 for providing data services, then the interface 30 will not properly convert messages and thus, the access system 18 will not properly operate as a DCE.

To overcome this potential problem shown by example, some embodiments of the interface 30 are configured to be compatible with more than one type of network interface unit 26 and/or service delivery unit. For example, the above exemplary interface 30 of figure 3 also may be configured to understand and convert messages for service delivery units 28 that provide any one or more of data services and video services. In a similar manner, the interface 30 of figure 4 also may be configured to understand and convert messages for coupled network interface units 26 that are used with any one or more of fiber optic networks, DSL networks, and various types of wireless networks.

In some embodiments, a single network interface unit 26 can be configured to couple with more than one network type 22. In a similar manner, a single service delivery units 28 can be configured to provide more than one network service. In such case, the interface 30 may be preprogrammed to convert messages from multiple network types 22 to one or more specified network service.

Figure 5 schematically shows an access system 18 in which the interface 30 is distributed between the network interface unit 26 and the service delivery unit 28. Such system utilizes a standardized format to communicate between coupled network interface units 26 and service delivery units 28. This format preferably is identical for all types of network interface units 26 and all types of service delivery units 28. Accordingly, any type of network interface unit 26 can communicate with any type of service delivery unit, thus eliminating the limitations to the embodiments discussed above with regard to figures 4 and 5.

To that end, the network interface unit 26 includes an N.I.U. interface 30A that cooperates with an S.D.U. interface 30B to convert messages to appropriate formats. The N.I.U. interface 30A converts messages from the N.I.U. format to the standardized format, and from the standardized format to the N.I.U. format.

Accordingly, in a manner similar to the interfaces 30 shown in figures 3 and 4, the N.I.U. interface 30A is preconfigured to operate with the particular network medium/media 22 to which the network interface unit 26 is connected.

Conversely, the S.D.U. interface 30B converts messages from the S.D.U. format to the standardized format, and from the standardized format to the S.D.U. format. The S.D.U. interface 30B thus also is preconfigured to operate with the particular network service(s) provided by the network service module 34.

In illustrative embodiments, each type of network interface unit 26 has a physical connector 36 that is a standardized size to couple with a corresponding standardized sized mating connector 38 on each type of service delivery unit 28. Figure 6 schematically shows a family of different types of network interface units 26, and a family of different types of service delivery units 28. Although different, each type of network interface unit 26 has an identical type of connector 36 for connecting with one or more service delivery units 28. In a similar manner, each type of service delivery unit 28 also has an identical type of connector 38 for connecting with one or more network interface units 26.

Figure 7 schematically shows one embodiment of the access system 18 shown in figure 1. This is but one of many different types of access systems 18 that may implement illustrative embodiments of the invention and thus, is not intended to limit the scope of the invention. Accordingly, discussion of this access system 18 is exemplary only. The access system 18 of figure 7 includes two modular network interface units 26A and 26B that both couple with a single service delivery unit 28 via a generally shown interface 30. Each network interface unit 26A and 26B includes logic for coupling with one network type 22, while the service delivery unit 28 provides two different types of network services. It should be noted that the interface 30 shown schematically in figure 7 can be similar to any one of those shown in figures 3-5. In some embodiments,

the interface 30 is a component that is external to both the network interface unit 26A or 26B and the service delivery unit 28.

More particularly, the access system 18 shown in figure 7 includes a cable network interface unit 26A for providing a connection to a cable network, and a
5 fiber network interface unit 26B for providing a connection to a fiber optic network. To those ends, the cable network interface unit 26A includes a tuner 40 to provide the physical layer tuning functions, and a DOCSIS MAC and Scheduler 42 that implements DOCSIS standards via the tuner 40. For example, the DOCSIS MAC and Scheduler 42 may coordinate cable transmissions with
10 other transmissions on the cable network, control bandwidth allocations and quality of service, and communicate with a head end device across the cable network. Both the tuner 40 and DOCSIS MAC and Scheduler 42, which function in this embodiment as the medium module 32, may be conventionally available devices.

The fiber network interface unit 26B includes an optical to electrical
15 converter 44 for converting incoming light signals to electrical signals. The converter 44 also includes logic for executing MAC functions on the fiber network to permit multiple different users on a network (*i.e.*, external to the user's premises) to share its use. In illustrative embodiments, the converter 44,
20 which functions as the medium module 32 in this embodiment, includes a conventional PON (passive optical network) diode receiver and laser transmitter, such as a gigabit Ethernet PON microchip.

The service delivery unit 28 includes a processor 46 for executing much of the logic required by the service delivery unit, an Ethernet module 48 for
25 communicating with an Ethernet card on a computer (*i.e.*, thus providing a readily available and simple connection to such computer), and an IP telephony module 50 for providing IP telephony services to one or more IP telephones. The processor 46 and IP telephony module 50 are discussed in greater detail below.

In addition, the service delivery unit 28 includes four plugs 52 for coupling the IP telephony module 50 with up to four different IP telephones, and one plug 54 for coupling the Ethernet module 48 with a computer.

The IP telephony module 50 includes logic for communicating with one or more IP telephones, and executing the functions requested by such telephone(s). Among other things, those functions may include distinguishing between the different coupled telephones, directing incoming data to the appropriate telephone, forwarding data from one telephone to an appropriate receiving device (e.g., using an appropriate IP address), signaling processes, and line card functions. Of course, other functions typically executed for such purposes also are implemented in the IP telephony module 50. To these ends, the IP telephony module 50 may include an IP stack, MGCP Signaling, and a line card. For example, these may be implemented, at least in part, by the combination of a digital signal processor ("DSP"), subscriber line access controller ("SLAC"), and a subscriber line interface circuit ("SLIC") that together are preconfigured to execute the necessary functions.

The processor 46 provides overall controlling functionality for the service delivery unit 28, and specific functionality to the Ethernet module 48 and the IP telephony module 50. In particular, the processor 46 may implement and maintain quality of service requirements, which are transmitted to the network interface unit 26 (e.g., a telephone call may require a specific quality of service), resource management within the service delivery unit 28 between the various modules, and media access control ("MAC") functionality for the Ethernet module 48 on behalf of a computer, which may be coupled with a local area network. To implement these and other functions, the processor 46 may be any conventional processor in the art. For example, the processor 46 may be the POWERPC™ 850 Processor, distributed by Motorola, Inc. of Schaumburg, Illinois.

As noted above, use of the disclosed system is not limited to the disclosed types of network services and network types 22. Principles of various embodiments thus can be applied to other network types 22 and network services currently available. In fact, such principles are expected to apply to
5 future network types and network services not currently deployed.

Use of the disclosed modular access system 18 thus permits a single network interface unit 26 to cooperate with one or more of many different types of service delivery unit 28 to act as data communication equipment for a coupled network device. In a similar manner, the access system 18 also permits a single
10 service delivery unit 28 to cooperate with one or more of many different types of network interface units 26 for the same purposes. This eliminates the need for a multitude of specialized DCEs that each are specific to both one type of network and one type of network service, thus providing flexibility and saving equipment costs. If properly configured, the disclosed access system 18 should permit any
15 network interface unit 26 to couple with any type of service delivery unit 28.

Although various exemplary embodiments of the invention have been disclosed, it should be apparent to those skilled in the art that various changes and modifications can be made that will achieve some of the advantages of the invention without departing from the true scope of the invention. These and
20 other obvious modifications are intended to be covered by the appended claims.

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We claim:

1. A network interface unit for connecting a service delivery unit to a given medium, the service delivery unit being any one type in a family of different types of service delivery units, each type of service delivery unit in the family providing a network service that is different than the network service provided by the other types of service delivery units in the family, the service delivery unit processing messages received in a first format, the network interface unit comprising:
 - 10 a medium module configured to process data for transmission between the given medium and the service delivery unit, the medium module transmitting messages toward the service delivery unit in a second format; and
 - an interface module configured to receive messages transmitted between the medium module and the service delivery unit, the interface module being
15 configured to translate messages from the second format to the first format.
2. The network interface unit as defined by claim 1 wherein the service delivery unit transmits messages in the first format, further wherein the medium module processes messages received in the second format, the interface module
20 also being configured for translating messages from the first format to the second format.
3. The network interface unit as defined by claim 1 wherein all of the different types of service delivery units in the family process data in the first
25 format.

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11. A service delivery unit for providing a network service, the service delivery unit cooperating with a network interface unit to function as data communication equipment to a network for data termination equipment, the network interface unit being any one type of a plurality of different types of network interface units, each type of network interface unit having the connection logic for connecting to a network medium that is different than the network mediums to which the other types of network interface units can connect, the network interface unit processing messages received in a first format, the service delivery unit comprising:

10 a network service module that provides the network service, the network service module transmitting messages toward the network interface unit in a second format; and

an interface module configured for receiving messages transmitted between the network service module and the network interface unit, the interface module being configured to translate messages from the second format to the first format.

12. The service delivery unit as defined by claim 11 wherein the network interface unit transmits messages in the first format, further wherein the network service module processes messages received in the second format, the interface module also being configured to translate messages from the first format to the second format.

13. The service delivery unit as defined by claim 11 wherein all of the types of network interface units process data in the first format.

14. The service delivery unit as defined by claim 11 wherein only the network interface unit processes data in the first format, the other types of network interface units processing data in different formats.

5 15. The service delivery unit as defined by claim 11 wherein the network mediums each are a broadband medium implementing at least one of a fiber optic technology, cable technology, or digital subscriber line technology.

10 16. The service delivery unit as defined by claim 11 wherein the network service may include at least one of telephony, data service, audio service, video service, and Virtual Private network service.

15 17. The service delivery unit as defined by claim 11 further including:
a connector for electrically and physically connecting to the network interface unit, the connector being a single size that corresponds to the size of connectors on each of the different types of network interface units.

20 18. The service delivery unit as defined by claim 11 wherein the network service module includes application specific hardware and software for providing the network service.

19. The service delivery unit as defined by claim 11 wherein the service delivery unit is physically separated from the network interface unit.

25 20. A modular data communication equipment system comprising:
a family of different types of network interface units, each type of network interface unit having connection logic for connecting to a network medium that

FOOTNOTES

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is different than the connection media to which the other types of network interface units can connect;

a family of different types of service delivery units, each type of service delivery unit providing a network service that is different than the service
5 provided by the other types of service delivery units,

the network interface units being configured to communicate with at least one service delivery unit via formatted messages; and

an interface configured to convert the format of messages transmitted
10 between any one type of the network interface units and any one type of the service delivery units.

21. The system as defined by claim 20 wherein the interface is distributed across the network interface units and the service delivery units.

15 22. The system as defined by claim 20 wherein the interface is configured to receive messages that are specific to one of any type of service delivery unit, the interface also being configured to convert the format of the received messages to a format that is specific to one of any type of network interface unit.

20 23. The system as defined by claim 20 wherein the network medium is a broadband medium implementing at least one of fiber optic technology, cable technology, or digital subscriber line technology.

24. The system as defined by claim 20 wherein the network service may
25 include at least one of telephony, data service, audio service, video service, and Virtual Private network service.

25. The system as defined by claim 20 wherein each type of network interface unit includes a first connector for electrically and physically connecting to one service delivery unit.

5 26. The system as defined by claim 25 wherein each type of service delivery unit includes a second connector for electrically and physically connecting to the first connector, the first connector being a single size that corresponds to the size of the second connector.

10 27. The system as defined by claim 20 wherein each network interface unit is physically separated from each service delivery unit.

15

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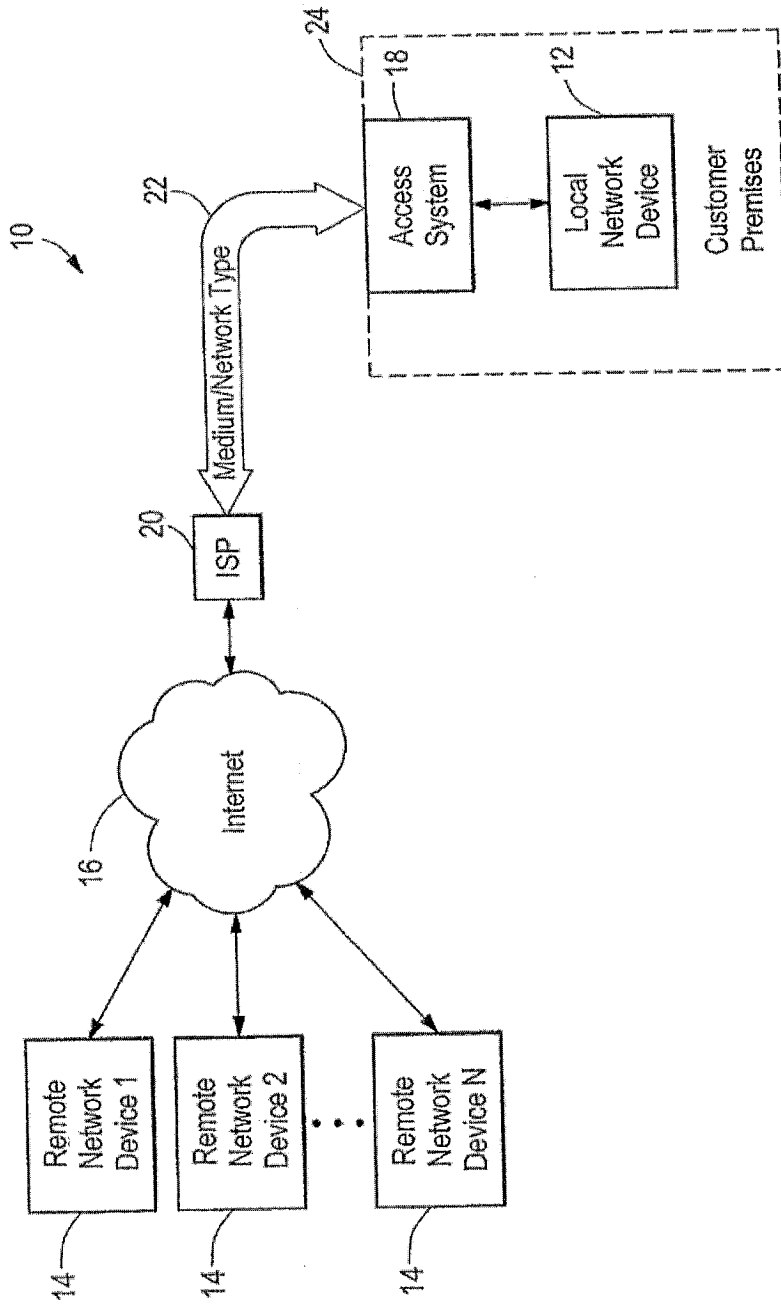


FIG. 1

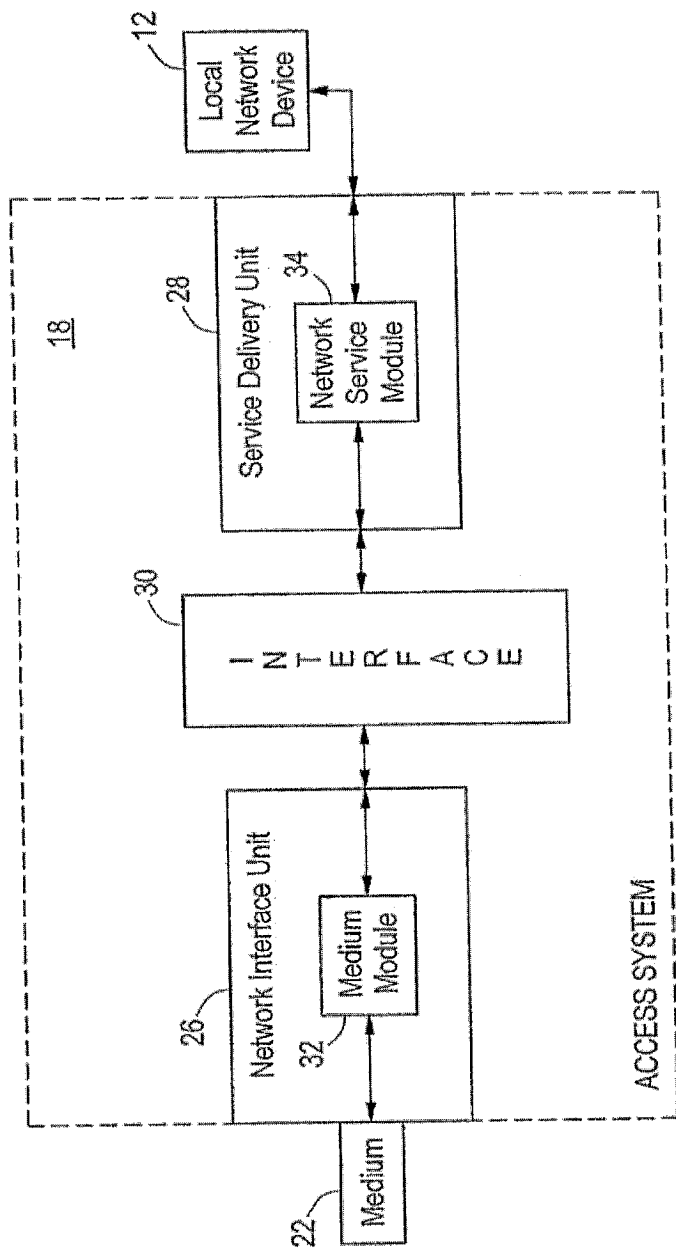


FIG. 2

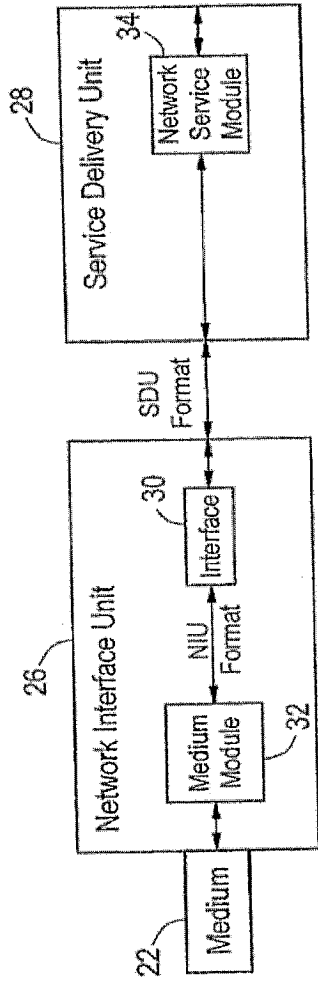


FIG. 3

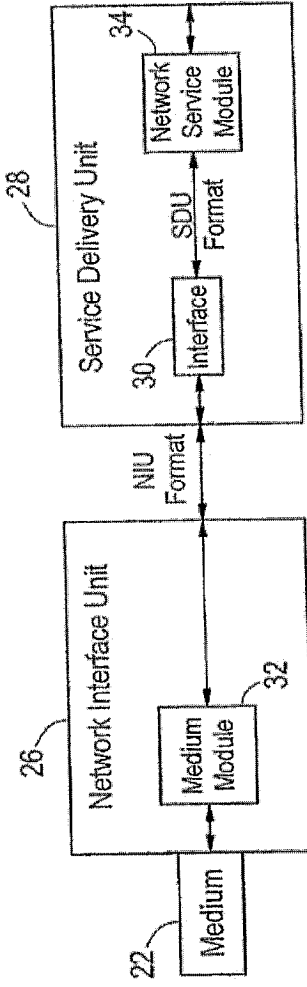


FIG. 4

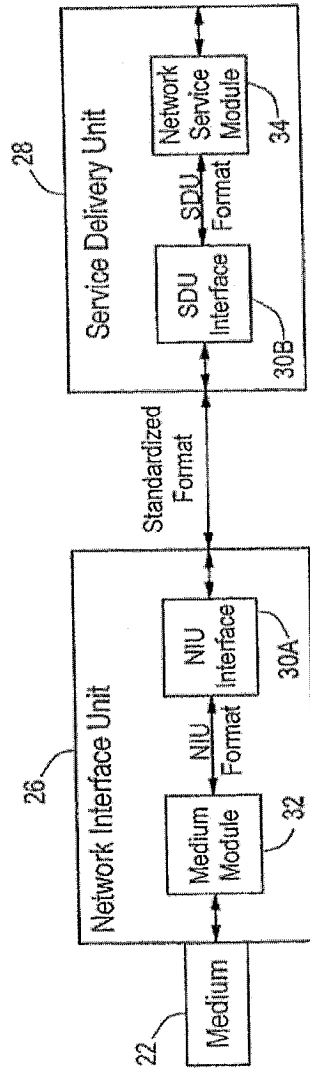


FIG. 5

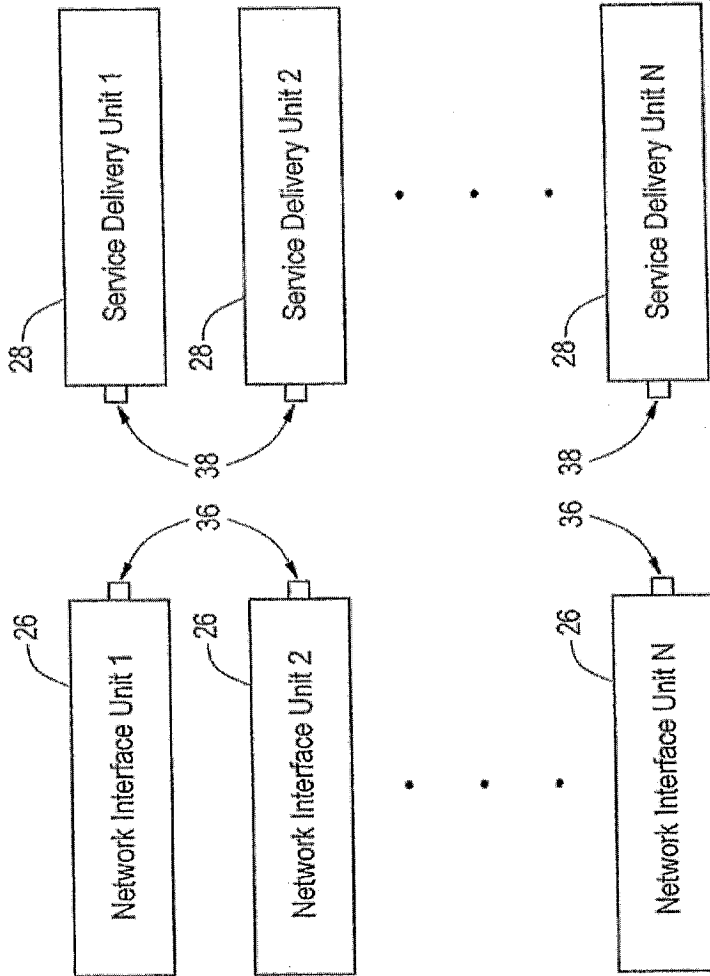


FIG. 6

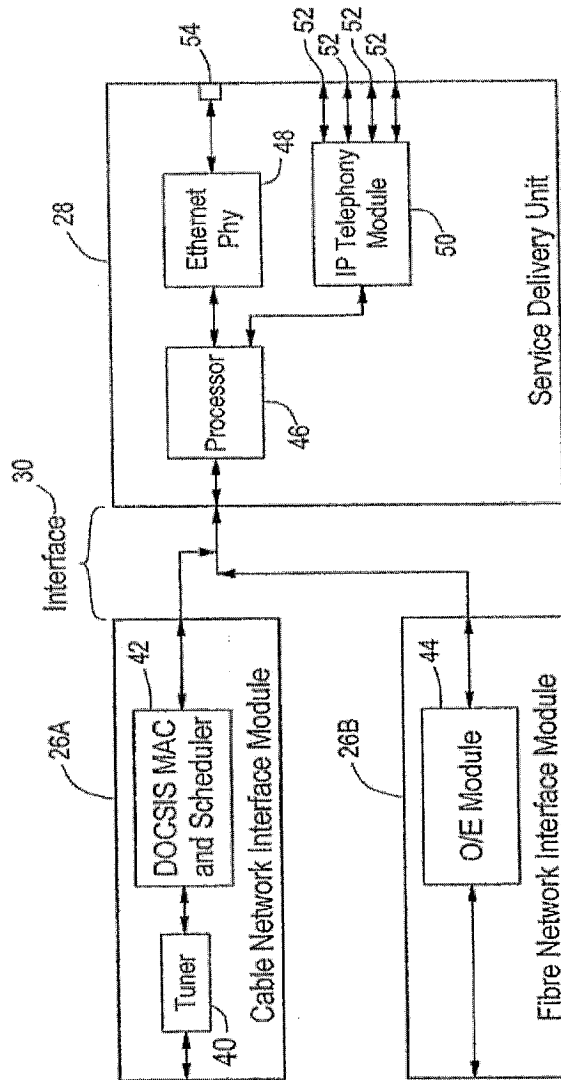


FIG. 7

Docket No.
2282/109

Declaration and Power of Attorney For Patent Application

English Language Declaration

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

Modular Data Communication Equipment System

the specification of which

(check one)

is attached hereto.

was filed on _____ as United States Application No. or PCT International Application Number _____ and was amended on _____ (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 referred to above.

I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56.

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

Prior Foreign Application(s)			Priority Not Claimed
_____	_____	_____	<input type="checkbox"/>
(Number)	(Country)	(Day/Month/Year Filed)	
_____	_____	_____	<input type="checkbox"/>
(Number)	(Country)	(Day/Month/Year Filed)	
_____	_____	_____	<input type="checkbox"/>
(Number)	(Country)	(Day/Month/Year Filed)	

I hereby claim the benefit under 35 U.S.C. Section 119(e) of any United States provisional application(s) listed below:

(Application Serial No.)	(Filing Date)
(Application Serial No.)	(Filing Date)
(Application Serial No.)	(Filing Date)

I hereby claim the benefit under 35 U. S. C. Section 120 of any United States application(s), or Section 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. Section 112, I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, C. F. R., Section 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application:

09/753,014	January 2, 2001	pending
(Application Serial No.)	(Filing Date)	(Status) (patented, pending, abandoned)
(Application Serial No.)	(Filing Date)	(Status) (patented, pending, abandoned)
(Application Serial No.)	(Filing Date)	(Status) (patented, pending, abandoned)

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 Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. *(list name and registration number)*

Bruce D. Sunstein	27,234	Elizabeth P. Morano	42,904
Timothy M. Murphy	33,198	Sonia K. Guterman	44,729
Robert M. Asher	30,445	Keith J. Wood	45,235
Samuel J. Petuchowski	37,910	Karen A. Buchanan	37,790
Harriet M. Strimpel	37,008	Yang Xu	45,243
Steven G. Saunders	36,265	Alton Hornsby, III	47,299
John J. Stickevers	39,387	Alexander Smolenski	47,953
Herbert A. Newborn	42,031	Steven B. Phillips	37,911
Jean M. Tibbetts	43,193	Thomas A. Gigliotti	37,579
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Jay Sandvos	43,900	John Vynalek	37,254

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T 1 0 3 0 7 4 3 3 6 0

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Post Office Address Same as residence	

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Fourth inventor's signature	Date
Residence	
Citizenship	
Post Office Address	

Full name of fifth inventor, if any	
Fifth inventor's signature	Date
Residence	
Citizenship	
Post Office Address	

Full name of sixth inventor, if any	
Sixth inventor's signature	Date
Residence	
Citizenship	
Post Office Address	

Express Mail Label No.

Page 1 of 4

Docket No.
2282/109

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Modular Data Communication Equipment System

the specification of which

(check one)

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was filed on _____ as United States Application No. or PCT International Application Number _____ and was amended on _____

(if applicable)

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Prior Foreign Application(s)			Priority Not Claimed
_____ (Number)	_____ (Country)	_____ (Day/Month/Year Filed)	<input type="checkbox"/>
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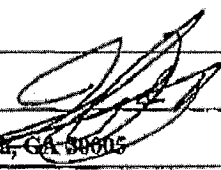
I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

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Steven G. Saunders	36,265	Alton Hornsby, III	47,299
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Jean M. Tibbetts	43,193	Thomas A. Giglotti	37,579
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Jay Sandvos	43,900	John Vynalek	37,254

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Third inventor's signature <i>James D. Lakin</i>	Date <i>4/18/01</i>
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Post Office Address Same as residence	

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Fourth inventor's signature	Date
Residence	
Citizenship	
Post Office Address	

Full name of fifth inventor, if any	
Fifth inventor's signature	Date
Residence	
Citizenship	
Post Office Address	

Full name of sixth inventor, if any	
Sixth inventor's signature	Date
Residence	
Citizenship	
Post Office Address	

PATENT APPLICATION FEE DETERMINATION RECORD
Effective October 1, 2000

Application or Docket Number

CLAIMS AS FILED - PART I

	(Column 1)	(Column 2)
TOTAL CLAIMS	27	
FOR	NUMBER FILED	NUMBER EXTRA
TOTAL CHARGEABLE CLAIMS	27 minus 20 =	7
INDEPENDENT CLAIMS	3 minus 3 =	0
MULTIPLE DEPENDENT CLAIM PRESENT	<input type="checkbox"/>	

* If the difference in column 1 is less than zero, enter "0" in column 2

CLAIMS AS AMENDED - PART II

AMENDMENT A	(Column 1)	(Column 2)	(Column 3)
	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
Total	*	Minus **	=
Independent	*	Minus ***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <input type="checkbox"/>			

AMENDMENT B	(Column 1)	(Column 2)	(Column 3)
	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
Total	*	Minus **	=
Independent	*	Minus ***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <input type="checkbox"/>			

AMENDMENT C	(Column 1)	(Column 2)	(Column 3)
	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
Total	*	Minus **	=
Independent	*	Minus ***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <input type="checkbox"/>			

* 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.

SMALL ENTITY TYPE OR

OTHER THAN SMALL ENTITY

RATE	FEE	OR	RATE	FEE
BASIC FEE	355.00	OR	BASIC FEE	710.00
X\$ 9=		OR	X\$18=	126
X40=		OR	X80=	
+135=		OR	+270=	
TOTAL		OR	TOTAL	836

SMALL ENTITY OR

OTHER THAN SMALL ENTITY

RATE	ADDITIONAL FEE	OR	RATE	ADDITIONAL FEE
X\$ 9=		OR	X\$18=	
X40=		OR	X80=	
+135=		OR	+270=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

RATE	ADDITIONAL FEE	OR	RATE	ADDITIONAL FEE
X\$ 9=		OR	X\$18=	
X40=		OR	X80=	
+135=		OR	+270=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

RATE	ADDITIONAL FEE	OR	RATE	ADDITIONAL FEE
X\$ 9=		OR	X\$18=	7
X40=		OR	X80=	
+135=		OR	+270=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

PATENT APPLICATION SERIAL NO. _____

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE
FEE RECORD SHEET

06/22/2001 HMOR1 0000026 09884684

01 FC:101	710.00 DP
02 FC:103	125.00 DP

PTO-1556
(5/87)

*U.S. GPO: 2000-468-987/39595

CLAIMS ONLY

SERIAL NO. **C9884684** FILING DATE **06-22-01**

APPLICANT(S)

CLAIMS

	AS FILED		AFTER 1st AMENDMENT		AFTER 2nd AMENDMENT			*		*		*	
	IND.	DEP.	IND.	DEP.	IND.	DEP.		IND.	DEP.	IND.	DEP.	IND.	DEP.
1	1						51						
2		1					52						
3			1				53						
4				1			54						
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47							97						
48							98						
49							99						
50							100						
TOTAL IND.	3						TOTAL IND.						
TOTAL DEP.	24						TOTAL DEP.						
TOTAL CLAIMS	27						TOTAL CLAIMS						

* MAY BE USED FOR ADDITIONAL CLAIMS OR ADMENDMENTS



RECEIPT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventors: Rodriguez et al.

Atty Docket: 2282/109

Serial No: 09/884,684

Date: July 12, 2001

#2

Filed: June 19, 2001

Invention: Modular Data Communication Equipment System

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited on July 12, 2001 with the United States Postal Service as first class mail in an envelope addressed to Application Processing Division, Customer Correction Branch, Commissioner for Patents, Washington, DC 20231.

Steven G. Saunders

Commissioner for Patents
Application Processing Division
Customer Correction Branch
Washington, DC 20231

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SEP 06 2001
Technology Center 2600

REQUEST FOR CORRECTED FILING RECEIPT

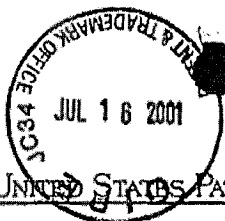
Dear Sir:

The priority information of the invention as shown on the formal filing receipt is incorrect. The filing date of the priority application is January 2, 2001

A copy of the formal filing receipt with the change noted thereon is enclosed. Applicant kindly requests that the filing receipt be amended accordingly. Thank you.

Respectfully submitted,

Steven G. Saunders
Registration No. 36,265
BROMBERG & SUNSTEIN LLP
125 Summer Street
Boston, MA 02110
(617) 443-9292



UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NUMBER	FILING DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	DRAWINGS	TOT CLAIMS	IND CLAIMS
09/884,684	06/19/2001	2661	836	2282/109	6	27	3

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CONFIRMATION NO. 5201

Steven G. Saunders
 Bromberg & Sunstein LLP
 125 Summer Street
 Boston, MA 02110-1618

JUL 12 2001

FILING RECEIPT



OC00000006280479

BROMBERG & SUNSTEIN

Date Mailed: 07/11/2001

Receipt is acknowledged of this nonprovisional Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. 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 write to the Office of Initial Patent Examination's Customer Service Center. 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 (if appropriate).

Applicant(s)

Juan O. Rodriguez, Alpharetta, GA;
 David J. Berman, Swampscott, MA;
 James D. Lakin, Roswell, GA;

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 SEP 06 2001
 Technology Center 2600

Domestic Priority data as claimed by applicant

THIS APPLICATION IS A CON OF 09/753,014 02/26/2001 *
 (*) Data inconsistent with PTO records. 01/02/2001

Foreign Applications

If Required, Foreign Filing License Granted 07/10/2001

Projected Publication Date: Request for Non-Publication Acknowledged

Non-Publication Request: Yes

Early Publication Request: No

Title

Modular data communication equipment system

Preliminary Class

370

Data entry by : YOSEPH, LETEYESUS

Team : OIPE

Date: 07/11/2001



**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.

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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).

PLEASE NOTE the following information about the Filing Receipt:

- The articles such as "a," "an" and "the" are not included as the first words in the title of an application. They are considered to be unnecessary to the understanding of the title.
- The words "new," "improved," "improvements in" or "relating to" are not included as first words in the title of an application because a patent application, by nature, is a new idea or improvement.
- The title may be truncated if it consists of more than 500 characters (letters and spaces combined).
- The docket number allows a maximum of 25 characters.
- If your application was submitted under 37 CFR 1.10, your filing date should be the "date in" found on the Express Mail label. If there is a discrepancy, you should submit a request for a corrected Filing Receipt along with a copy of the Express Mail label showing the "date in."
- The title is recorded in sentence case.

Any corrections that may need to be done to your Filing Receipt should be directed to:

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#3
05/15/03
S.I

CHANGE OF ADDRESS/POWER OF ATTORNEY

FILE LOCATION 2FC1 SERIAL NUMBER 09884684 PATENT NUMBER
THE CORRESPONDENCE ADDRESS HAS BEEN CHANGED TO CUSTOMER # 2101
THE PRACTITIONERS OF RECORD HAVE BEEN CHANGED TO CUSTOMER # 2101
THE FEE ADDRESS HAS BEEN CHANGED TO CUSTOMER # 2101
ON 01/24/03 THE ADDRESS OF RECORD FOR CUSTOMER NUMBER 2101 IS:

BROMBERG & SUNSTEIN LLP
125 SUMMER STREET
BOSTON MA 02110-1618

AND THE PRACTITIONERS OF RECORD FOR CUSTOMER NUMBER 2101 ARE:

27234 30445 33198 34465 36265 37008 37790 37910 39250 39387
42904 43193 43900 45235 47953 48241

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APR 07 2003

Technology Center 2600

PTO INSTRUCTIONS: PLEASE TAKE THE FOLLOWING ACTION WHEN THE
CORRESPONDENCE ADDRESS HAS BEEN CHANGED TO CUSTOMER NUMBER:
RECORD, ON THE NEXT AVAILABLE CONTENTS LINE OF THE FILE JACKET,
'ADDRESS CHANGE TO CUSTOMER NUMBER'. LINE THROUGH THE OLD
ADDRESS ON THE FILE JACKET LABEL AND ENTER ONLY THE 'CUSTOMER
NUMBER' AS THE NEW ADDRESS. FILE THIS LETTER IN THE FILE JACKET.
WHEN ABOVE CHANGES ARE ONLY TO FEE ADDRESS AND/OR PRACTITIONERS
OF RECORD, FILE LETTER IN THE FILE JACKET.
THIS FILE IS ASSIGNED TO GAU 2661.

L Number	Hits	Search Text	DB	Time stamp
-	1538	370/419-421,466-467.ccls.	USPAT	2004/09/17 08:56
-	1477	370/419-421,466-467.ccls. and @ad<20010102	USPAT	2004/09/17 08:57
-	40	(370/419-421,466-467.ccls. and @ad<20010102) and sdu	USPAT	2004/09/01 14:07
-	25	370/419-421.ccls. and 370/466-467.ccls.	USPAT	2004/09/01 14:17
-	25	(370/419-421.ccls. and 370/466-467.ccls.) and @ad<20010102	USPAT	2004/09/01 14:17
-	1078	370/466-467.ccls.	USPAT	2004/09/01 14:17
-	1028	370/466-467.ccls. and @ad<20010102	USPAT	2004/09/01 14:17
-	2	(370/466-467.ccls. and @ad<20010102) and docsis	USPAT	2004/09/01 14:21
-	833	(370/466-467.ccls. and @ad<20010102) and (translate\$4 convert\$4)	USPAT	2004/09/01 14:42
-	313	((370/466-467.ccls. and @ad<20010102) and (translate\$4 convert\$4)) and (fiber or cable or dsl) and (telephony or telephone or pots or data or audio or video)	USPAT	2004/09/01 14:24
-	396	((370/466-467.ccls. and @ad<20010102) and (translate\$4 convert\$4)) and (fiber or cable or dsl broadband) and (telephony or telephone or pots or data or audio or video)	USPAT	2004/09/01 14:42
-	75	(370/466-467.ccls. and @ad<20010102) and isp	USPAT	2004/09/01 14:43
-	235	((370/466-467.ccls. and @ad<20010102) and (translate\$4 convert\$4) near4 (format or protocol)) and (fiber or cable or dsl broadband) and (telephony or telephone or pots or data or audio or video)	USPAT	2004/09/01 14:43
-	24	(((370/466-467.ccls. and @ad<20010102) and (translate\$4 convert\$4) near4 (format or protocol)) and (fiber or cable or dsl broadband) and (telephony or telephone or pots or data or audio or video)) and isp	USPAT	2004/09/01 14:43
-	475	(370/466-467.ccls. and @ad<20010102) and (translate\$4 convert\$4) near4 (format or protocol)	USPAT	2004/09/02 08:53
-	1486	370/419-421,466-467.ccls. and @ad<20010102	USPAT	2004/09/16 17:12
-	342	(370/419-421,466-467.ccls. and @ad<20010102) and ((phy or physical) near2 layer)	USPAT	2004/09/16 17:17
-	106	((370/419-421,466-467.ccls. and @ad<20010102) and ((phy or physical) near2 layer)) and (convert\$4 or translat\$4) near2 (format or protocol)	USPAT	2004/09/16 17:34
-	86796	access near2 (module interface unit system device)	USPAT	2004/09/16 17:35
-	500	(access near2 (module interface unit system device)) and (370/419-421,466-467.ccls. and @ad<20010102)	USPAT	2004/09/16 17:35
-	40	service near2 delivery near2 unit	USPAT	2004/09/16 17:36
-	1	(service near2 delivery near2 unit) and ((access near2 (module interface unit system device)) and (370/419-421,466-467.ccls. and @ad<20010102))	USPAT	2004/09/16 17:37
-	1791	network near2 interface near2 unit	USPAT	2004/09/16 17:37
-	34	(network near2 interface near2 unit) and ((access near2 (module interface unit system device)) and (370/419-421,466-467.ccls. and @ad<20010102))	USPAT	2004/09/16 17:37
-	724	370/419-421,466-467.ccls. and network near2 interface	USPAT	2004/09/17 08:56
-	246	(370/419-421,466-467.ccls. and network near2 interface) and (convert\$4 or translat\$4) near2 (protocol format)	USPAT	2004/09/17 08:57
-	239	((370/419-421,466-467.ccls. and network near2 interface) and (convert\$4 or translat\$4) near2 (protocol format)) and @ad<20010102	USPAT	2004/09/17 08:57



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/884,684	06/19/2001	Juan O. Rodriguez	2282/109	5201
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2101 7590 10/07/2004
BROMBERG & SUNSTEIN LLP
 125 SUMMER STREET
 BOSTON, MA 02110-1618

EXAMINER

PHUNKULH, BOB A

ART UNIT	PAPER NUMBER
----------	--------------

2661

DATE MAILED: 10/07/2004

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

Office Action Summary	Application No. ✕ 09/884,684	Applicant(s) RODRIGUEZ ET AL.	
	Examiner Bob A. Phunkulh	Art Unit 2661	

-- 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) 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 the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- 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 19 June 2001.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) 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

- 4) Claim(s) 1-27 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-27 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 19 June 2001 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).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

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).
a) All b) Some * c) None of:
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.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Double Patenting

A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

Claims 1-27 are provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-27 of copending Application No. 09/753,014. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 6-14, 16-22, 24-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Abensour et al. (US 5,251,207), hereinafter Abensour.

Regarding claim 1, Abensour discloses a network interface unit (*the combination of FR element 22 and Protocol conversion and Address translation 26, see figure 4*) for

Art Unit: 2661

connecting a service delivery unit (*SMDS element 24, see figure 4*) to a given medium, the service delivery unit being any one type in a family of different types of service delivery units, each type of service delivery unit in the family providing a network service that is different than the network service provided by the other types of service delivery units in the family, the service delivery unit processing messages received in a first format, the network interface unit comprising:

a medium module (*FR element 22, see figure 4*) configured to process data for transmission between the given medium and the service delivery unit, the medium module transmitting messages toward the service delivery unit in a second format; and

an interface module (*Protocol conversion and Address translation 26, see figure 4*) configured to receive messages transmitted between the medium module and the service delivery unit, the interface module being configured to translate messages from the second format to the first format (see col. 4 lines 28 to col. 5 line 9).

Regarding claim 2, Abensour discloses the network interface unit as defined by claim 1 wherein the service delivery unit transmits messages in the first format, further wherein the medium module processes messages received in the second format, the interface module also being configured for translating messages from the first format to the second format (see figures 4-5; and col. 4 lines 28 to col. 5 line 9).

Regarding claim 3, Abensour discloses the network interface unit as defined by claim 1 wherein all of the different types of service delivery units in the family process data in the first format (see figures 4-5; and col. 4 lines 28 to col. 5 line 9).

Regarding claim 4, Abensour discloses the network interface unit as defined by claim 1 wherein only the any one service delivery unit processes data in the first format, the other service delivery unit types in the family processing data in different formats (see figures 4-5; and col. 4 lines 28 to col. 5 line 9).

Regarding claim 6. The network interface unit as defined by claim 1 wherein the network service may include at least one of telephony, data service, audio service, video service, and Virtual Private network service (see col. 2 lines 31-34).

Regarding claim 7, Abensour discloses the network interface unit as defined by claim 1 further including: a connector for electrically and physically connecting to the service delivery unit, the connector being a single size that corresponds to the size of connectors on each of the types of service delivery units in the family (see figures 4-5; and col. 4 line 28 to col. 5 line 9).

Regarding claim 8. The network interface unit as defined by claim 1 wherein the medium module includes a network physical layer and media control module (FR element 22, see col. 4 lines 44-59).

Regarding claim 9, Abensour discloses the network interface unit as defined by claim 1 wherein the network interface unit is physically separated from the service delivery unit (see figures 4-5; and col. 4 line 28 to col. 5 line 9).

Regarding claim 10, Abensour discloses the network interface unit as defined by claim 1 wherein the service delivery unit and network interface unit together are configured for functioning as data communication equipment for data terminal equipment (see figure 5).

Regarding claim 11, Abensour discloses a service delivery unit for providing a network service, the service delivery unit cooperating with a network interface unit to function as data communication equipment to a network for data termination equipment, the network interface unit being any one type of a plurality of different types of network interface units, each type of network interface unit having the connection logic for connecting to a network medium that is different than the network mediums to which the other types of network interface units can connect, the network interface unit processing messages received in a first format, the service delivery unit comprising:

a network service module (SDMS element 24, see figures 4-5) that provides the network service, the network service module transmitting messages toward the network interface unit in a second format; and

an interface module configured for receiving messages transmitted between the network service module and the network interface unit, the interface module being configured to translate messages from the second format to the first format (see figures 4-5; and col. 4 lines 28 to col. 5 line 9).

Regarding claim 12, Abensour discloses the service delivery unit as defined by claim 11 wherein the network interface unit transmits messages in the first format, further wherein the network service module processes messages received in the second format, the interface module also being configured to translate messages from the first format to the second format (see figures 4-5; and col. 4 lines 28 to col. 5 line 9).

Regarding claim 13, Abensour discloses the service delivery unit as defined by claim 11 wherein all of the types of network interface units process data in the first format (see figures 4-5; and col. 4 lines 28 to col. 5 line 9).

Regarding claim 14, Abensour discloses the service delivery unit as defined by claim 11 wherein only the network interface unit processes data in the first format, the other types of network interface units processing data in different formats (FR format and SMDS format, see figure 4-5).

Regarding claim 16, Abensour discloses the service delivery unit as defined by claim 11 wherein the network service may include at least one of telephony, data service, audio service, video service, and Virtual Private network service (see col. 2 lines 31-34).

Regarding claim 17, Abensour discloses the service delivery unit as defined by claim 11 further including: a connector for electrically and physically connecting to the network interface unit, the connector being a single size that corresponds to the size of connectors on each of the different types of network interface units (see figures 4-5).

Regarding claim 18, Abensour discloses the service delivery unit as defined by claim 11 wherein the network service module includes application specific hardware and software for providing the network service (see figures 4-5).

Regarding claim 19, Abensour discloses the service delivery unit as defined by claim 11 wherein the service delivery unit is physically separated from the network interface unit (see figure 4-5).

Regarding claim 20, Abensour discloses a modular data communication equipment system comprising:

a family of different types of network interface units (FR element 22, see figures 4-5), each type of network interface unit having connection logic for connecting to a network medium that is different than the connection media to which the other types of network interface units can connect;

a family of different types of service delivery units (SMDS element 24, see figures 4-5), each type of service delivery unit providing a network service that is different than the service provided by the other types of service delivery units, the network interface units being configured to communicate with at least one service delivery unit via formatted messages; and

an interface configured to convert the format of messages transmitted between any one type of the network interface units and any one type of the service delivery units (protocol conversion and address translation 26, see figures 4-5).

Regarding claim 21, Abensour discloses the system as defined by claim 20 wherein the interface is distributed across the network interface units and the service delivery units (see figures 4-5).

Regarding claim 22, Abensour discloses the system as defined by claim 20 wherein the interface is configured to receive messages that are specific to one of any type of service delivery unit, the interface also being configured to convert the format of the received messages to a format that is specific to one of any type of network interface unit (see figures 4-5).

Regarding claim 24, Abensour discloses the system as defined by claim 20 wherein the network service may include at least one of telephony, data service, audio service, video service, and Virtual Private network service (FR format and SMDS format, see figure 4-5).

Regarding claim 25, Abensour discloses the system as defined by claim 20 wherein each type of network interface unit includes a first connector for electrically and physically connecting to one service delivery unit (see figures 4-5).

Regarding claim 26, Abensour discloses the system as defined by claim 25 wherein each type of service delivery unit includes a second connector for electrically and physically connecting to the first connector, the first connector being a single size that corresponds to the size of the second connector (see figures 4-5).

Regarding claim 27, Abensour discloses the system as defined by claim 20 wherein each network interface unit is physically separated from each service delivery unit (see figures 4-5).

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:

Art Unit: 2661

(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.

Claims 5, 15, 23, are rejected under 35 U.S.C. 103(a) as being unpatentable over Abensour.

Regarding claims 5, 15, 23, Abensour fails to explicitly disclose the network interface unit as defined by claim 1 wherein the given medium is a broadband medium implementing at least one of a fiber optic technology, cable technology, or digital subscriber line technology.

However, it would have been obvious to one having ordinary skill in the art at the time of invention was made to replace either FR network or SMDS network of Abensours with either cable or DSL technology in order to take advantage of widely available and use technology.

Conclusion

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Art Unit: 2661

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Bob A. Phunkulh** whose telephone number is **(571) 272-3083**. The examiner can normally be reached on Monday-Tuesday from 8:00 A.M. to 5:00 P.M. (first week of the bi-week) and Monday-Friday (for second week of the bi-week).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's acting supervisor **Kenneth Vanderpuye**, can be reach on **(571) 272-3078**. The fax phone number for this group is **(703) 872-9306**.

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Application/Control Number: 09/884,684
Art Unit: 2661

Page 12

Bob A. Phunkulh

Bob A Phunkulh

TC 2600
Art Unit 2661
October 5, 2004

**BOB PHUNKULH
PRIMARY EXAMINER**

Notice of References Cited	Application/Control No. 09/884,884	Applicant(s)/Patent Under Reexamination RODRIGUEZ ET AL.	
	Examiner Bob A. Phunkulh	Art Unit 2661	Page 1 of 1

U.S. PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
A	US-6,026,086	02-2000	Lancelot et al.	370/353
B	US-5,550,984	08-1996	Gelb, Edward J.	709/245
C	US-5,251,207	10-1993	Abensour et al.	370/473
D	US-			
E	US-			
F	US-			
G	US-			
H	US-			
I	US-			
J	US-			
K	US-			
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FOREIGN PATENT DOCUMENTS

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Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Index of Claims



Application No.

09/884,684

Examiner

Bob A. Phunkulh

Applicant(s)

RODRIGUEZ ET AL.

Art Unit

2661

√	Rejected
≡	Allowed

-	(Through numeral) Cancelled
+	Restricted

N	Non-Elected
I	Interference

A	Appeal
O	Objected

Claim		Date									
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Table with 5 columns: SERIAL NUMBER (09/884,684), FILING DATE (06/19/2001), CLASS (370), GROUP ART UNIT (2661), ATTORNEY DOCKET NO. (2282/109)

APPLICANTS

Juan O. Rodriguez, Alpharetta, GA;

David J. Berman, Swampscott, MA;
James D. Lakin, Roswell, GA;

** CONTINUING DATA BAP

This application is a CON of 09/753,014 02/26/2001 *
(*)Data provided by applicant is not consistent with PTO records.

** FOREIGN APPLICATIONS BAP 1

IF REQUIRED, FOREIGN FILING LICENSE GRANTED
** 07/10/2001

Table with 5 columns: Foreign Priority claimed, 35 USC 119 (a-d) conditions met, STATE OR COUNTRY (GA), SHEETS/DRAWING (6), TOTAL CLAIMS (27), INDEPENDENT CLAIMS (3)

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TITLE

Modular data communication equipment system

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APPLICATION NUMBER	PATENT NUMBER	GROUP ART UNIT	FILE WRAPPER LOCATION
09/884,684		2661	06B0

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Juan O. Rodriguez
For: **MODULAR DATA COMMUNICATION EQUIPMENT SYSTEM**
Filed: 06/19/2001
Serial No. 09/884,684

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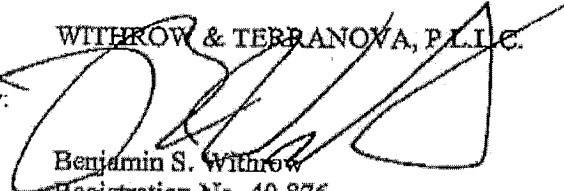
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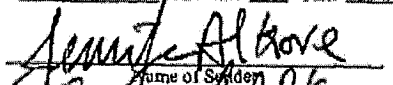
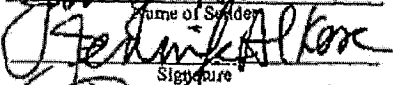
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Respectfully submitted,

By: 
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Benjamin S. Withrow
Registration No. 40,876
Customer No. 27820
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Cary, NC 27512

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In Re Application of: Rodriguez <i>et al.</i>	§	Attorney Docket No. 7000-414A
	§	
Serial No.: 09/884,684	§	
	§	
Filed: 06/19/2001	§	Group Art Unit: 2661
	§	
Title: MODULAR DATA COMMUNICATION EQUIPMENT SYSTEM	§	Examiner: Phunkulh, Bob A.
	§	
	§	

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PATENT APPLICATION

Nortel Networks Limited, a Canadian corporation having principal offices at:

Nortel Networks Limited
2351 Boulevard Alfred-Nobel
St. Laurent, Quebec H4S 2A9, Canada

the owner by assignment of the entire right, title and interest to the invention for **MODULAR DATA COMMUNICATION EQUIPMENT SYSTEM**, by Juan O. Rodriguez *et al.*, and in and to the application for patent and any Letters Patent, whether domestic or foreign, that may issue thereon, by virtue of the assignment (check as applicable):

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hereby appoints the following attorneys and/or agents to prosecute this application and transact all business in the Patent and Trademark Office connected therewith:

Benjamin S. Withrow (Reg. No. 40,876), Steven N. Terranova (Reg. No. 43,185), Taylor M. Davenport (Reg. No. 42,466); Richard C. Bevins (Reg. No. 51,468)

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Rev. February 12, 2003

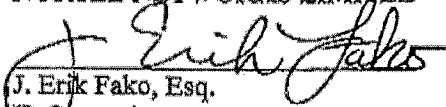
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Please address all correspondence and telephone calls regarding this application to:

Withrow & Terranova, P.L.L.C., P.O. Box 1287, Cary, NC 27512, (919) 654-4520

The undersigned is the representative for the Assignee of the entire right, title, and interest in the patent application identified above, and is authorized to act on behalf of the Assignee.

12-20-04
Date

NORTEL NETWORKS LIMITED

J. Erik Fako, Esq.
IP Counsel

Rev. February 12, 2003

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	Filing Date	06/10/2001
	First Named Inventor	Juan O. Rodriguez
	Group Art Unit	2881
	Examiner Name	Phunkulh, Bob A.
	Attorney Docket Number	7000-414A

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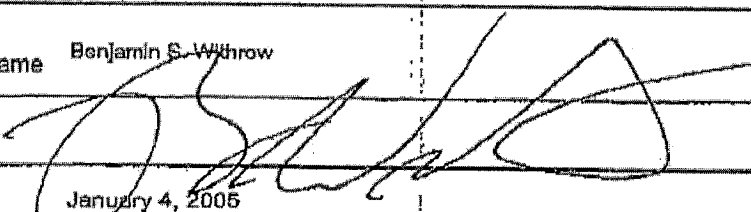
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Date January 4, 2005

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Juan O. Rodriguez et al.
Serial No. 09/884,684
Filed: 06/19/2001

Examiner: Phunkulh, Bob A.
Art Unit: 2661

For: MODULAR DATA COMMUNICATION EQUIPMENT SYSTEM (Continuation)

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

Sir:

RESPONSE TO THE OFFICE ACTION MAILED OCTOBER 7, 2004

In response to the office action mailed October 7, 2004, 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.

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In the Specification:

Please amend the paragraph beginning on Page 7, line 11 as follows:

Figure 2 schematically shows additional details of the access system 18 shown in figure 1. Specifically, the access system 18 includes one unit of a family of different types of improved network interface units 26 that provide the necessary physical layer conversions and/or signal processing for transmission across a given network medium 22, and one unit of a family of different types of service delivery units 28 that provide the necessary logic for permitting a given network service to be performed by the network device 12. In addition, the access system 18 also includes a standard interface 30 for logically connecting the network interface unit 26 with the service delivery unit 28. Details of these three different components of the access system 18 are discussed below. It should be noted that in some embodiments, the network interface units 26 may be referred to as network interface modules. In still other embodiments, the service delivery units 28 may be referred to as service delivery modules.

Please amend the paragraph beginning on Page 7, line 24 as follows:

In particular, the network interface unit 26 includes a medium module 32 having hardware and software for implementing the appropriate physical layer and medium control processes required for transmitting data messages across the given network type 22. Stated another way, the medium module 32 implements the underlying specification for transmitting data across the network medium 22 to which it is attached. This functionality is independent of the service being provided by the service delivery unit 28. The medium module 32 may include a single element, or a plurality of different devices/modules for implementing the required function. By way of example, if the network medium 22 is a cable network, then the medium module 32 may include the hardware and software for implementing the DOCSIS standard (see figure 7, discussed below).

In the Claims:

1. (Currently Amended) A network interface unit comprising:
an interface for connecting a service delivery unit to a given medium, wherein the storage delivery unit is being any one type in a family of different types of service delivery units, each type of service delivery unit in the family providing a network service that is different than the network service provided by the other types of service delivery units in the family, the service delivery unit processing messages received in a first format; ~~the network interface unit comprising:~~
 - a medium module configured to process data for transmission between the given medium and the service delivery unit, the medium module transmitting messages toward the service delivery unit in a second format; and
 - an interface module configured to receive messages transmitted between the medium module and the service delivery unit, the interface module being configured to translate messages from the second format to the first format.
2. (Original) The network interface unit as defined by claim 1 wherein the service delivery unit transmits messages in the first format, further wherein the medium module processes messages received in the second format, the interface module also being configured for translating messages from the first format to the second format.
3. (Original) The network interface unit as defined by claim 1 wherein all of the different types of service delivery units in the family process data in the first format.
4. (Original) The network interface unit as defined by claim 1 wherein only the any one service delivery unit processes data in the first format, the other service delivery unit types in the family processing data in different formats.
5. (Original) The network interface unit as defined by claim 1 wherein the given medium is a broadband medium implementing at least of a fiber optic technology, cable technology, or digital subscriber line technology.

6. (Original) The network interface unit as defined by claim 1 wherein the network service may include at least one of telephony, data service, audio service, video service, and Virtual Private network service.
7. (Original) The network interface unit as defined by claim 1 further including:
a connector for electrically and physically connecting to the service delivery unit, the connector being a single size that corresponds to the size of connectors on each of the types of service delivery units in the family.
8. (Original) The network interface unit as defined by claim 1 wherein the medium module includes a network physical layer and media control module.
9. (Original) The network interface unit as defined by claim 1 wherein the network interface unit is physically separated from the service delivery unit.
10. (Original) The network interface unit as defined by claim 1 wherein the service delivery unit and network interface unit together are configured for functioning as data communication equipment for data terminal equipment.
11. (Currently Amended) A service delivery unit for providing a network service, comprising:
an apparatus ~~the service delivery unit~~ cooperating with a network interface unit to function as data communication equipment to a network for data termination equipment, the network interface unit being any one type of a plurality of different types of network interface units, each type of network interface unit having the connection logic for connecting to a network medium that is different than the network mediums to which the other types of network interface units can connect, the network interface unit processing messages received in a first format; ~~the service delivery unit comprising:~~
a network service module that provides the network service, the network service module transmitting messages toward the network interface unit in a second format; and

an interface module configured for receiving messages transmitted between the network service module and the network interface unit, the interface module being configured to translate messages from the second format to the first format.

12. (Original) The service delivery unit as defined by claim 11 wherein the network interface unit transmits messages in the first format, further wherein the network service module processes messages received in the second format, the interface module also being configured to translate messages from the first format to the second format.

13. (Original) The service delivery unit as defined by claim 11 wherein all of the types of network interface units process data in the first format.

14. (Original) The service delivery unit as defined by claim 11 wherein only the network interface unit processes data in the first format, the other types of network interface units processing data in different formats.

15. (Original) The service delivery unit as defined by claim 11 wherein the network mediums each are a broadband medium implementing at least one of a fiber optic technology, cable technology, or digital subscriber line technology.

16. (Original) The service delivery unit as defined by claim 11 wherein the network service may include at least one of telephony, data service, audio service, video service, and Virtual Private network service.

17. (Original) The service delivery unit as defined in claim 11 further including:
a connector for electrically and physically connecting to the network interface unit, the connector being a single size that corresponds to the size of connectors on each of the different types of network interface units.

18. (Original) The service delivery unit as defined by claim 11 wherein the network service module includes application specific hardware and software for providing the network service.

19. (Original) The service delivery unit as defined in claim 11 wherein the service delivery unit is physically separated from the network interface unit.
20. (Original) A modular data communication equipment system comprising:
a family of different types of network interface units, each type of network interface unit having connection logic for connecting to a network medium that is different than the connection media to which the other types of network interface units can connect;
a family of different types of service delivery units, each type of service delivery unit providing a network service that is different than the service provided by other types of service delivery units,
the network interface units being configured to communicate with at least one service delivery unit via formatted messages; and
an interface configured to convert the format of messages transmitted between any one type of the network interface units and any one type of the service delivery units.
21. (Original) The system as defined by claim 20 wherein the interface is distributed across the network interface units and the service delivery units.
22. (Original) The system as defined by claim 20 wherein the interface is configured to receive messages that are specific to one of any type of service delivery unit, the interface also being configured to convert the format of the received messages to a format that is specific to one of any type of network interface unit.
23. (Original) The system as defined by claim 20 wherein the network medium is a broadband medium implementing at least one of fiber optic technology, cable technology, or digital subscriber line technology.
24. (Original) The system as defined by claim 20 wherein the network service may include at least one of telephony, data service, audio service, video service, and Virtual Private network service.

25. (Original) The system as defined by claim 20 wherein each type of network interface unit includes a first connector for electrically and physically connecting to one service delivery unit.

26. (Original) The system as defined by claim 25 wherein each type of service delivery unit includes a second connector for electrically and physically connecting to the first connector, the first connector being a single size that corresponds to the size of the second connector.

27. (Original) The system as defined by claim 20 wherein each network interface unit is physically separated from each service delivery unit.

REMARKS

Applicant has carefully reviewed the Office Action of October 7, 2004, and offers the following remarks to accompany the above amendments.

Applicant initially amends the specification in two places to insert reference characters and fix typographical errors. No new matter is added by these amendments, but the specification is made more readable.

Claims 1-27 were provisionally rejected under 35 U.S.C. § 101 as claiming the same invention as claims 1-27 of copending Application No. 09/753,014 (the parent application of the present application). Applicant acknowledges this double patenting rejection, and notes that Applicant is keeping the parent application alive so as to fix the filing date thereof so that the present application is afforded the proper priority date. Specifically, the parent application was filed on January 2, 2001 with missing parts. Applicant received an appropriate filing receipt reflecting the January 2, 2001 date. Applicant submitted the missing parts and was subsequently issued a new filing receipt for the parent application with a filing date of February 26, 2001. When Applicant filed the current application, the filing receipt indicated that the filing date of the parent application was February 26, 2001. The February 26, 2001 date is incorrect and should be January 2, 2001. Applicant filed a request to correct the filing receipt for both applications, but to date has not received corrected filing receipts and, as evidenced by the date listed on the cover sheet of the Office Action in the parent application, the correction has not been made.

Applicant will resubmit the requests to correct the filing receipts for both applications in the near future, but files the present response without doing so, so as to avoid paying any government extension of time fees.

Applicant also notes that in the preparation of formal drawings, Figure 7 has omitted an arrow head under the bracket labeled Interface 30. Applicant will provide a new version of Figure 7 by way of a supplemental response in the near future, but points this error out at this time so that the Examiner is alerted to this error and the intended fix.

Claims 1-4, 6-14, 16-22, and 24-27 were rejected under 35 U.S.C. § 102(b) as being anticipated by Abensour et al. (hereinafter "Abensour"). Applicant respectfully traverses. For the Patent Office to establish anticipation, the Patent Office must show where each and every

claim element is located in the reference. Further, the elements of the reference must be arranged as claimed. MPEP § 2131.

Applicant herein amends claim 1 to move elements from the preamble into the body of the claim. Specifically, the body of claim 1 now recites, "wherein the storage delivery unit is any one type in a family of different types of service delivery units, each type of service delivery unit in the family providing a network service that is different than the network service provided by the other types of service delivery units in the family. . . ." The Patent Office, in its analysis of original claim 1, does not identify where in Abensour any of these elements can be found. In fact, Abensour does not teach that the service delivery unit is one type in a family of different types of service delivery units because Abensour only teaches one type of service delivery unit. Likewise, because Abensour only teaches one type of service delivery unit, there is no teaching or suggestion that each type of service delivery unit provides a network service that is different than the network service provided by the other types of service delivery units in the family, as recited in the claim. To this extent, there are multiple claim elements which are not taught or suggested by Abensour. Since there are claim elements which are not taught or suggested by Abensour, the claim is not anticipated.

Claims 2-4 and 6-10 depend from claim 1, and are not anticipated at least for the same reasons. Applicant requests withdrawal of the § 102(b) rejection of claims 1-4 and 6-10 at this time.

Claim 11, as amended, now also pulls the elements of the preamble into the body of the claim. Specifically, the body of the claim now recites "the network interface unit being any one type of a plurality of different types of network interface units, each type of network interface unit having the connection logic for connecting to a network medium that is different than the network mediums to which the other types of network interface units can connect. . . ." The Patent Office, in its analysis of original claim 11, does not identify where in Abensour any of these elements can be found. In fact, Abensour does not teach that the network interface unit is one of a type of a plurality of different types of network interface units, or that each type of network interface unit having the connection logic for connecting to a network medium that is different than the network mediums to which the other types of network interface units connect, because Abensour only teaches one type of network medium. As such, Abensour does not teach

or suggest these claim elements. Since Abensour does not teach or suggest these claim elements, Abensour cannot anticipate claim 11.

Claims 12-14 and 16-19 depend from claim 11, and are not anticipated at least for the same reason. Applicant requests withdrawal of the § 102(b) rejection of claims 11-14 and 16-19 at this time.

Claim 20 recites a family of different types of network interface units. The Patent Office points to Abensour FR element 22 in Figures 4 and 5. However, there is no "family of different types of network interface units" in FR element 22 or Figures 4 and 5. To the contrary, only one type of network interface unit is shown. Since the claim recites a family, and the reference only shows one, the reference cannot anticipate claim 20.

Claims 21, 22, and 24-27 depend from claim 20, and are not anticipated at least for the same reasons. Applicant requests withdrawal of the § 102(b) rejection of claims 20-22 and 24-27 at this time.

Claims 5, 15, and 23 were rejected under 35 U.S.C § 103 as being unpatentable over Abensour. Applicant respectfully traverses. For the Patent Office to establish *prima facie* obviousness, the Patent Office must show where each and every claim element is located in the modified reference. MPEP § 2143.03. Before the Patent Office can modify a reference, the Patent Office must do two things. First, the Patent Office must articulate a motivation to modify the reference, and second, the Patent Office must provide actual evidence to support the motivation to modify the reference. *In re Kotzab*, 217 F.3d 1365, 1370 (Fed. Cir. 2000).

Applicant initially traverses the rejection of claims 5, 15, and 23 because the Patent Office has not provided the requisite actual evidence. Specifically, the Patent Office asserts that the motivation to modify Abensour is "to take advantage of widely available and use [sic] technology." This assertion lacks any supporting evidence, and as such, the motivation to modify Abensour is improper. Since the motivation to modify Abensour is improper, and Abensour admittedly does not show the cable and DSL technology recited in the claims, the Patent Office has not established *prima facie* obviousness.

Even if the modification to Abensour is proper, a point which Applicant does not concede, Abensour does not teach or suggest the elements of the independent claims, as explained above. The proposed modification to Abensour does not cure this deficiency. Since Abensour does not teach or suggest all the claim elements for the underlying independent claims,

Abensour does not establish *prima facie* obviousness for claims 5, 15, and 23. Applicant requests withdrawal of the § 103 rejection of claims 5, 15, and 23 at this time.

Applicant requests reconsideration of the rejections in light of the remarks and amendments presented herein. Applicant earnestly solicits claim allowance at the Examiner's earliest convenience.

Respectfully submitted,

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

By:

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P.O. Box 1287
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Date: January 7, 2004
Attorney Docket: 7000-414A

CERTIFICATE OF TRANSMISSION	
I HEREBY CERTIFY THAT THIS DOCUMENT IS BEING TRANSMITTED VIA FACSIMILE ON THE DATE INDICATED BELOW TO:	
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PATENT APPLICATION FEE DETERMINATION RECORD
Substitute for Form PTO-875

Application or Docket Number
09/884684

CLAIMS AS FILED - PART I

FOR	NUMBER FILED	NUMBER EXTRA
BASIC FEE (37 CFR 1.16(a))		
TOTAL CLAIMS (37 CFR 1.16(c))	minus 20 *	*
INDEPENDENT CLAIMS (37 CFR 1.16(b))	minus 3 *	*
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(d))		

SMALL ENTITY

RATE	FEE
	\$ _____
X \$ _____ =	
X \$ _____ =	
+ \$ _____ =	
TOTAL	

OR

OTHER THAN SMALL ENTITY

RATE	FEE
	\$ _____
X \$ _____ =	
X \$ _____ =	
+ \$ _____ =	
TOTAL	

* If the difference in column 1 is less than zero, enter "0" in column 2.

CLAIMS AS AMENDED - PART II

1/7/05

	(Column 1)	(Column 2)	(Column 3)
AMENDMENT	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total (37 CFR 1.16(e))	Minus ** 27	27
	Independent (37 CFR 1.16(b))	Minus *** 3	3
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(d))			

SMALL ENTITY

RATE	ADDITIONAL FEE
X \$ _____ =	
X \$ _____ =	
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TOTAL ADD'L FEE	

OR

OTHER THAN SMALL ENTITY

RATE	ADDITIONAL FEE
X \$ _____ =	
X \$ _____ =	
+ \$ _____ =	
TOTAL ADD'L FEE	

	(Column 1)	(Column 2)	(Column 3)
AMENDMENT	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total (37 CFR 1.16(e))	Minus **	
	Independent (37 CFR 1.16(b))	Minus ***	
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(d))			

SMALL ENTITY

RATE	ADDITIONAL FEE
X \$ _____ =	
X \$ _____ =	
+ \$ _____ =	
TOTAL ADD'L FEE	

OR

OTHER THAN SMALL ENTITY

RATE	ADDITIONAL FEE
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TOTAL ADD'L FEE	

	(Column 1)	(Column 2)	(Column 3)
AMENDMENT	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total (37 CFR 1.16(e))	Minus **	
	Independent (37 CFR 1.16(b))	Minus ***	
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(d))			

SMALL ENTITY

RATE	ADDITIONAL FEE
X \$ _____ =	
X \$ _____ =	
+ \$ _____ =	
TOTAL ADD'L FEE	

OR

OTHER THAN SMALL ENTITY

RATE	ADDITIONAL FEE
X \$ _____ =	
X \$ _____ =	
+ \$ _____ =	
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.

This collection of information is required by 37 CFR 1.16. 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, 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.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/884,684	06/19/2001	Juan O. Rodriguez	2282/109	5201

2101 7590 06/07/2005
BROMBERG & SUNSTEIN LLP
125 SUMMER STREET
BOSTON, MA 02110-1618

EXAMINER

PHUNKULH, BOB A

ART UNIT PAPER NUMBER

2661

DATE MAILED: 06/07/2005

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

DETAILED ACTION

This communication is in response to applicant's 01/07/2005 amendment(s)/response(s) in the application of **RODRIGUEZ et al.** for "**MODULAR DATA COMMUNICATION EQUIPMENT SYSTEM**" filed 06/19/2001. The amendments/response to the claims have been entered. No claims have been canceled. No claims have been added. Claims 1-27 are now pending.

Claim Objections

Claims 1 is objected to because of the following informalities: please correct "storage" to ~~service~~ in line 2. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 6-14, 16-22, 24-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Abensour et al. (US 5,251,207), hereinafter Abensour.

Regarding claim 1, Abensour discloses a network interface unit (*the combination of FR element 22 and Protocol conversion and Address translation 26 and SMDS element 24, see figure 4*) for connecting a service delivery unit (*SMDS element 24 or FR element 24, see figure 4*) to a given medium, the service delivery unit being any one

type in a family of different types of service delivery units, each type of service delivery unit in the family providing a network service that is different than the network service provided by the other types of service delivery units in the family, the service delivery unit processing messages received in a first format, the network interface unit comprising:

a medium module (either FR element 22 or SMDS element 24, see figure 4) configured to process data for transmission between the given medium and the service delivery unit, the medium module transmitting messages toward the service delivery unit in a second format; and

an interface module (Protocol conversion and Address translation 26, see figure 4) configured to receive messages transmitted between the medium module and the service delivery unit, the interface module being configured to translate messages from the second format to the first format (translate "connectionless" packet to "connection oriented" packet or "variable" length packet to "fixed" length packet, see col. 1 lines 44-62; col. 4 lines 28 to col. 5 line 9).

Regarding claim 2, Abensour discloses the network interface unit as defined by claim 1 wherein the service delivery unit transmits messages in the first format, further wherein the medium module processes messages received in the second format, the interface module also being configured for translating messages from the first format to the second format (see figures 4-5; and col. 4 lines 28 to col. 5 line 9).

Regarding claim 3, Abensour discloses the network interface unit as defined by claim 1 wherein all of the different types of service delivery units in the family process data in the first format (see figures 4-5; and col. 4 lines 28 to col. 5 line 9).

Regarding claim 4, Abensour discloses the network interface unit as defined by claim 1 wherein only the any one service delivery unit processes data in the first format, the other service delivery unit types in the family processing data in different formats (see figures 4-5; and col. 4 lines 28 to col. 5 line 9).

Regarding claim 6. The network interface unit as defined by claim 1 wherein the network service may include at least one of telephony, data service, audio service, video service, and Virtual Private network service (see col. 2 lines 31-34).

Regarding claim 7, Abensour discloses the network interface unit as defined by claim 1 further including: a connector for electrically and physically connecting to the service delivery unit, the connector being a single size that corresponds to the size of connectors on each of the types of service delivery units in the family (see figures 4-5; and col. 4 line 28 to col. 5 line 9).

Regarding claim 8. The network interface unit as defined by claim 1 wherein the medium module includes a network physical layer and media control module (FR element 22, see col. 4 lines 44-59).

Regarding claim 9, Abensour discloses the network interface unit as defined by claim 1 wherein the network interface unit is physically separated from the service delivery unit (see figures 4-5; and col. 4 line 28 to col. 5 line 9).

Regarding claim 10, Abensour discloses the network interface unit as defined by claim 1 wherein the service delivery unit and network interface unit together are configured for functioning as data communication equipment for data terminal equipment (see figure 5).

Regarding claim 11, Abensour discloses a service delivery unit for providing a network service, the service delivery unit cooperating with a network interface unit to function as data communication equipment to a network for data termination equipment, the network interface unit being any one type of a plurality of different types of network interface units, each type of network interface unit having the connection logic for connecting to a network medium that is different than the network mediums to which the other types of network interface units can connect, the network interface unit processing messages received in a first format, the service delivery unit comprising:

a network service module (SDMS element 24, see figures 4-5) that provides the network service, the network service module transmitting messages toward the network interface unit in a second format; and

an interface module configured for receiving messages transmitted between the network service module and the network interface unit, the interface module being configured to translate messages from the second format to the first format (see figures 4-5; and col. 4 lines 28 to col. 5 line 9).

Regarding claim 12, Abensour discloses the service delivery unit as defined by claim 11 wherein the network interface unit transmits messages in the first format, further wherein the network service module processes messages received in the second format, the interface module also being configured to translate messages from the first format to the second format (see figures 4-5; and col. 4 lines 28 to col. 5 line 9).

Regarding claim 13, Abensour discloses the service delivery unit as defined by claim 11 wherein all of the types of network interface units process data in the first format (see figures 4-5; and col. 4 lines 28 to col. 5 line 9).

Regarding claim 14, Abensour discloses the service delivery unit as defined by claim 11 wherein only the network interface unit processes data in the first format, the other types of network interface units processing data in different formats (FR format and SMDS format, see figure 4-5).

Regarding claim 16, Abensour discloses the service delivery unit as defined by claim 11 wherein the network service may include at least one of telephony, data service, audio service, video service, and Virtual Private network service (see col. 2 lines 31-34).

Regarding claim 17, Abensour discloses the service delivery unit as defined by claim 11 further including: a connector for electrically and physically connecting to the network interface unit, the connector being a single size that corresponds to the size of connectors on each of the different types of network interface units (see figures 4-5).

Regarding claim 18, Abensour discloses the service delivery unit as defined by claim 11 wherein the network service module includes application specific hardware and software for providing the network service (see figures 4-5).

Regarding claim 19, Abensour discloses the service delivery unit as defined by claim 11 wherein the service delivery unit is physically separated from the network interface unit (see figure 4-5).

Regarding claim 20, Abensour discloses a modular data communication equipment system comprising:

a family of different types of network interface units (FR element 22, see figures 4-5), each type of network interface unit having connection logic for connecting to a network medium that is different than the connection media to which the other types of network interface units can connect;

a family of different types of service delivery units (SMDS element 24, see figures 4-5), each type of service delivery unit providing a network service that is different than the service provided by the other types of service delivery units, the network interface units being configured to communicate with at least one service delivery unit via formatted messages; and

an interface configured to convert the format of messages transmitted between any one type of the network interface units and any one type of the service delivery units (protocol conversion and address translation 26, see figures 4-5).

Regarding claim 21, Abensour discloses the system as defined by claim 20 wherein the interface is distributed across the network interface units and the service delivery units (see figures 4-5).

Regarding claim 22, Abensour discloses the system as defined by claim 20 wherein the interface is configured to receive messages that are specific to one of any type of service delivery unit, the interface also being configured to convert the format of the received messages to a format that is specific to one of any type of network interface unit (see figures 4-5).

Regarding claim 24, Abensour discloses the system as defined by claim 20 wherein the network service may include at least one of telephony, data service, audio service, video service, and Virtual Private network service (FR format and SMDS format, see figure 4-5).

Regarding claim 25, Abensour discloses the system as defined by claim 20 wherein each type of network interface unit includes a first connector for electrically and physically connecting to one service delivery unit (see figures 4-5).

Regarding claim 26, Abensour discloses the system as defined by claim 25 wherein each type of service delivery unit includes a second connector for electrically and physically connecting to the first connector, the first connector being a single size that corresponds to the size of the second connector (see figures 4-5).

Regarding claim 27, Abensour discloses the system as defined by claim 20 wherein each network interface unit is physically separated from each service delivery unit (see figures 4-5).

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:

Art Unit: 2661

(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 negated by the manner in which the invention was made.

Claims 5, 15, 23, are rejected under 35 U.S.C. 103(a) as being unpatentable over Abensour.

Regarding claims 5, 15, 23, Abensour fails to explicitly disclose the network interface unit as defined by claim 1 wherein the given medium is a broadband medium implementing at least one of a fiber optic technology, cable technology, or digital subscriber line technology.

However, it would have been obvious to one having ordinary skill in the art at the time of invention was made to replace either FR network or SMDS network of Abensours with either cable or DSL technology in order to take advantage of widely available and used technology.

Response to Arguments

Applicant's arguments filed 1/7/2005 have been fully considered but they are not persuasive.

In response to the applicant argument, Abensour teaches at least two types of delivery units the SMDS element 24 and FR element 22 (see figure 4). FR element 22 for delivering frames having variable size or length and SMDS element 24 for delivering packets having fixed size (see col. 1 lines 44-62). Therefore, Abensour teaches the service delivery unit is one type in a family of different types of service delivery units.

In response to the applicant's argument in page 10, the applicant admitted that the broadband medium i.e. fiber optic, cable, and DSL are widely used and available medium at the time of invention was made (see pages 1 and 2 of the applicant's specification). Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention was made to replace either FR network or SMDS network of Abensours with either cable or DSL network in order to take advantage of widely available and used technology for delivering packets.

Conclusion

THIS ACTION IS MADE FINAL. 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 mailing date of this final action.

Any response to this action should be mailed to:

The following address mail to be delivered by the United States Postal Service (USPS) only:

Art Unit: 2661

Mail Stop _____
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Alexandria, VA 22313-1450

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(703) 872-9306, (for formal communications intended for entry)

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The following address mail to be delivered by other delivery services (Federal Express (Fed Ex), UPS, DHL, Laser, Action, Purolater, Hand Delivery, etc.) as follow:

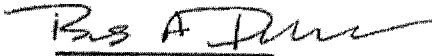
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Arlington, VA 22202.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Bob A. Phunkulh** whose telephone number is **(571) 272-3083**. The examiner can normally be reached on Monday-Tuesday from 8:00 A.M. to 5:00 P.M. (first week of the bi-week) and Monday-Friday (for second week of the bi-week).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor **Chau Nguyen**, can be reach on **(571) 272-3126**. The fax phone number for this group is **(703) 872-9306**.

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).

Bob A. Phunkulh



TC 2600
Art Unit 2661
June 01, 2005

**BOB PHUNKULH
PRIMARY EXAMINER**

Index of Claims



Application No.

09/884,684

Examiner

Bob A. Phunkulh

Applicant(s)

RODRIGUEZ ET AL.

Art Unit

2661

√	Rejected
=	Allowed

--	(Through numeral) Cancelled
+	Restricted

N	Non-Elected
I	Interference

A	Appeal
O	Objected

Claim		Date				Claim		Date				Claim		Date			
Final	Original	10/5/04	6/1/05			Final	Original					Final	Original				
	1	√	√				51						101				
	2	√	√				52						102				
	3	√	√				53						103				
	4	√	√				54						104				
	5	√	√				55						105				
	6	√	√				56						106				
	7	√	√				57						107				
	8	√	√				58						108				
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	12	√	√				62						112				
	13	√	√				63						113				
	14	√	√				64						114				
	15	√	√				65						115				
	16	√	√				66						116				
	17	√	√				67						117				
	18	√	√				68						118				
	19	√	√				69						119				
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	26	√	√				76						126				
	27	√	√				77						127				
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JUN 28 2005

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TO: Examiner Bob A. Phunkulh	FROM: Benjamin S. Withrow
COMPANY: USPTO - Art Unit 2661	DATE: 6/28/2005
FAX NUMBER: 703-872-9306	TOTAL NO. OF PAGES INCLUDING COVER: 6
PHONE NUMBER:	SENDER'S REFERENCE NUMBER: 7000-414A
RE: Re-submission of Power of Attorney	YOUR REFERENCE NUMBER: 09/884,684

URGENT FOR REVIEW PLEASE COMMENT PLEASE REPLY ORIGINAL TO FOLLOW

NOTES/COMMENTS:

Attached please find the following documents which were previously submitted on January 4, 2005.

- 1) Submission of Power of Attorney form
- 2) Power of Attorney
- 3) Change of Correspondence form

Also attached is a copy of the Auto-Reply Facsimile Transmission received in response to our original submission.

NOTE: The information contained in this transmission is privileged and confidential and intended ONLY for the individual or entity named above. If you should receive this transmission in error, please notify our office and return to the below address via the U.S. Postal Service.

201 SHANNON OAKS CIRCLE, SUITE 200

CARY, NC 27511

PH: (919) 654-4520

FAX: (919) 654-4521

PAGE 1/6 * RCVD AT 6/28/2005 2:17:16 PM [Eastern Daylight Time] * SVR:USPTO-EFAXF-115 * DNS:8729306 * CSID:919 654 4521 * DURATION (mm-ss):02-06

Auto-Reply Facsimile Transmission



TO: Fax Sender at 919 654 4521

Fax Information
Date Received: 1/4/2005 2:43:24 PM [Eastern Standard Time]
Total Pages: 5 (including cover page)

ADVISORY: This is an automatically generated return receipt confirmation of the facsimile transmission received by the Office. Please check to make sure that the number of pages listed as received in Total Pages above matches what was intended to be sent. Applicants are advised to retain this receipt in the unlikely event that proof of this facsimile transmission is necessary. Applicants are also advised to use the certificate of facsimile transmission procedures set forth in 37 CFR 1.8(a) and (b), 37 CFR 1.6(f). Trademark Applicants, also see the Trademark Manual of Examining Procedure (TMEP) section 306 et seq.

Received
Cover
Page
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08/28/05 14:19 FAX 919 654 4521 WITHROW & TERRANOVA → USPTO NB FAX 0001

Withrow & Terranova
Professional Limited Liability Company
Attorneys At Law
Registered Patent Attorneys
A High Technology Patent Practice

FACSIMILE TRANSMISSION SHEET

TO: Executive Rob A. Pissaloch	FROM: Benjamin S. Withrow
COMPANY: USPTO - Am Unit 2661	DATE: January 4, 2005
FAX NUMBER: 703-872-9306	TOTAL NO. OF PAGES INCLUDING COVER: 5
PHONE NUMBER:	RECORDS DEPARTMENT NUMBER: 7000-414A
NO: Power of Attorney	YOUR REFERENCE NUMBER: 09/804,684

URGENT FOR REVIEW HELD AS URGENT PLEASE REPLY ORIGINAL TO FOLLOW

NOTE/COMMENTS:

Please find attached the following items:

- 1) Submission of Power of Attorney
- 2) Power of Attorney
- 3) Change of Correspondence Address Form

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101 BRANNON OAKS CIRCLE, SUITE 200
CARY, NC 27511
TEL (919) 454-4520
FAX (919) 454-4521

PAGE 15 / RCVD AT 08/28/2005 2:17:16 PM Eastern Standard Time / SVR:USPTO-EFXXF-115 / DNIS:8729306 / CSID:919 654 4521 / DURATION (mm-ss):02:06

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Juan O. Rodriguez
For: **MODULAR DATA COMMUNICATION EQUIPMENT SYSTEM**
Filed: 06/19/2001
Serial No. 09/884,684

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JUN 28 2005

Commissioner for Patents
Washington, D.C. 20231

SUBMISSION OF POWER OF ATTORNEY

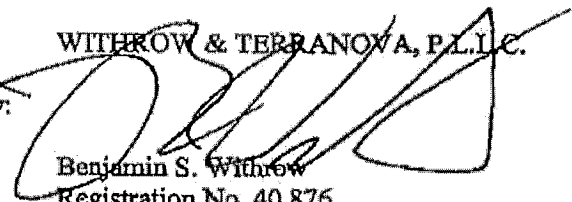
Sir:

Please enter the enclosed Power of Attorney and address all communications and telephone calls to Withrow & Terranova, P.L.L.C., Customer Number 27820, P.O. Box 1287, Cary, North Carolina 27512. A change of correspondence form is enclosed for your convenience in making this change of record. Also please change the Attorney Docket Number to 7000-414A.

Respectfully submitted,

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

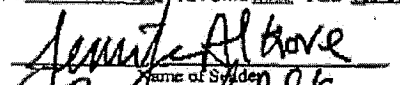


By:



Benjamin S. Withrow
Registration No. 40,876
Customer No. 27820
P.O. Box 1287
Cary, NC 27512

BSW/jjra
Enclosure

Date: January 4, 2005
File No.: 7000-414A

CERTIFICATE OF TRANSMISSION I HEREBY CERTIFY THAT THIS DOCUMENT IS BEING TRANSMITTED VIA FACSIMILE ON THE DATE INDICATED BELOW TO:	
Examiner: <u>Phunkuh, Bob A.</u> Art Unit: 2661 Fax: 703-872-9306	
 <small>Name of Signer</small>	
 <small>Signature</small>	
 <small>Date of Transmission</small>	

PATENT/DOCKET NO. 7000-414A
CUSTOMER NO. 27820

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of: Rodriguez *et al.*

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§

Attorney Docket No. 7000-414A

Serial No.: 09/884,684

Filed: 06/19/2001

Title: **MODULAR DATA
COMMUNICATION
EQUIPMENT SYSTEM**

Group Art Unit: 2661

Examiner: Phumkulh, Bob A.

**RECEIVED
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JUN 28 2005

Commissioner for Patents
Washington, D.C. 20231

**POWER OF ATTORNEY FOR
PATENT APPLICATION**

Nortel Networks Limited, a Canadian corporation having principal offices at:

**Nortel Networks Limited
2351 Boulevard Alfred-Nobel
St. Laurent, Quebec H4S 2A9, Canada**

the owner by assignment of the entire right, title and interest to the invention for **MODULAR DATA COMMUNICATION EQUIPMENT SYSTEM**, by Juan O. Rodriguez *et al.*, and in and to the application for patent and any Letters Patent, whether domestic or foreign, that may issue thereon, by virtue of the assignment (check as applicable):

- Recorded Concurrently Herewith
- Recorded on 6/19/2001
- Recorded at Reel 011924 Frame 0291
- Copy Attached

hereby appoints the following attorneys and/or agents to prosecute this application and transact all business in the Patent and Trademark Office connected therewith:

Benjamin S. Withrow (Reg. No. 40,876), Steven N. Terranova (Reg. No. 43,185), Taylor M. Davenport (Reg. No. 42,466); Richard C. Bevins (Reg. No. 51,468)

its attorneys and/or agents with full power of substitution and revocation, to prosecute all domestic and foreign patent applications, including PCT and EPO filings, relating to said

Rev. February 12, 2003

invention and to transact all business connected therewith, including signing of all papers on its behalf and making alterations and amendments.

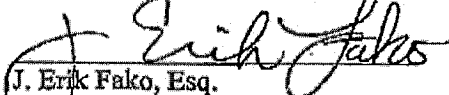
Please address all correspondence and telephone calls regarding this application to:

Withrow & Terranova, P.L.L.C., P.O. Box 1287, Cary, NC 27512, (919) 654-4520

The undersigned is the representative for the Assignee of the entire right, title, and interest in the patent application identified above, and is authorized to act on behalf of the Assignee.

12-20-04
Date

NORTEL NETWORKS LIMITED


J. Erik Fako, Esq.
IP Counsel

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CHANGE OF CORRESPONDENCE ADDRESS Application Address to: Commissioner for Patents PO Box 1450 Alexandria, VA 22313-1450	Application Number	09/884,684
	Filing Date	08/19/2001
	First Named Inventor	Juan O. Rodriguez
	Group Art Unit	2661
	Examiner Name	Phunkuh, Bob A.
	Attorney Docket Number	7000-414A

Please change the Correspondence Address for the above-identified application to:

Customer Number 27820 → Place Customer Number Bar Code Label here
 Type Customer Number here

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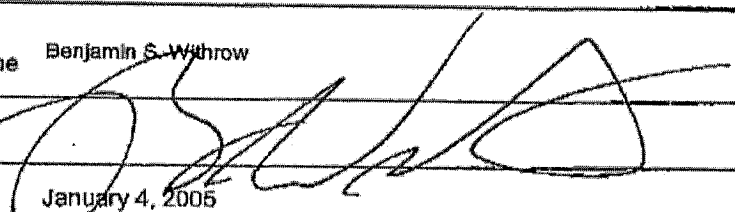
Applicant.

Assignee of record of the entire interest. Certificate under 37 CFR 3.73(b) is enclosed.

Attorney or agent of record, Reg. No. 40,876.

Registered practitioner named in the application transmittal letter in an application without an executed oath or declaration. See 37 CFR 1.33(a)(1), Registration Number

Typed or Printed Name Benjamin S. Withrow

Signature 

Date January 4, 2005

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.

*Total of ___ forms are submitted.

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, USPTO, PO Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, PO Box 1450, Alexandria, VA 22313-1450


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APPLICATION NUMBER	FILING OR 371 (c) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
09/884,684	06/19/2001	Juan O. Rodriguez	2282/109

 2101
 BROMBERG & SUNSTEIN LLP
 125 SUMMER STREET
 BOSTON, MA 02110-1618

CONFIRMATION NO. 5201


OC000000016438772

Date Mailed: 07/01/2005

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 06/28/2005.

- The Power of Attorney to you in this application has been revoked by the assignee who has intervened as provided by 37 CFR 3.71. Future correspondence will be mailed to the new address of record (37 CFR 1.33).

 DEDRIA WASHINGTON
 SALLY (703) 305-0677

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UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
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APPLICATION NUMBER	FILING OR 371 (c) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
09/884,684	06/19/2001	Juan O. Rodriguez	7000-414A

27820
WITHROW & TERRANOVA, P.L.L.C.
P.O. BOX 1287
CARY, NC 27512

CONFIRMATION NO. 5201

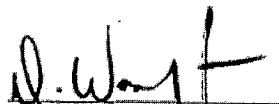


Date Mailed: 07/01/2005

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 06/28/2005.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.



DEDRIA WASHINGTON
SALLY (703) 303-0677

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Withrow & Terranova

Professional Limited Liability Company

Attorneys At Law
Registered Patent Attorneys*A High Technology Patent Practice*RECEIVED
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AUG 08 2005

FACSIMILE TRANSMITTAL SHEET

TO: Examiner Bob A. Phunkulh	FROM: Benjamin S. Withrow, Esq.
COMPANY: USPTO - Art Unit 2661	DATE: 08/08/05
FAX NUMBER: 571-273-8300	TOTAL NO. OF PAGES INCLUDING COVER: 10
PHONE NUMBER:	SENDER'S REFERENCE NUMBER: 7000-414A
RE: Response to Final Office Action	YOUR REFERENCE NUMBER: 09/884,684

URGENT FOR REVIEW PLEASE COMMENT PLEASE REPLY ORIGINAL TO FOLLOW

NOTES/COMMENTS:

Please find attached the following item:

- 1) Response to the Final Office Action mailed June 7, 2005 (9 pages);

NOTE: The information contained in this transmission is privileged and confidential and intended ONLY for the individual or entity named above. If you should receive this transmission in error, please notify our office and return to the below address via the U.S. Postal Service.

201 SHANNON OAKS CIRCLE, SUITE 200
CARY, NC 27511
PH: (919) 654-4520
FAX: (919) 654-4521

PAGE 1/10 * RCVD AT 8/8/2005 3:14:54 PM [Eastern Daylight Time] * SVR:USPTO-EFXXRF-6/38 * DNIS:2738300 * CSID:919 654 4521 * DURATION (mm-ss):02-44

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Juan O. Rodriguez et al.

Examiner: Phunkulh, Bob A.

Serial No. 09/884,684

Art Unit: 2661

Filed: 06/19/2001

For: **MODULAR DATA COMMUNICATION EQUIPMENT SYSTEM**

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AUG 08 2005

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Commissioner for Patents

PO Box 1450

Alexandria, VA 22313-1450

Sir:

RESPONSE TO THE FINAL OFFICE ACTION MAILED JUNE 7, 2005

In response to the final office action mailed June 7, 2005, Applicant offers the following 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 network interface unit comprising:

an interface for connecting a service delivery unit to a given medium, wherein the service storage delivery unit is any one type in a family of different types of service delivery units, each type of service delivery unit in the family providing a network service that is different than the network service provided by the other types of service delivery units in the family, the service delivery unit processing messages received in a first format;

a medium module configured to process data for transmission between the given medium and the service delivery unit, the medium module transmitting messages toward the service delivery unit in a second format; and

an interface module configured to receive messages transmitted between the medium module and the service delivery unit, the interface module being configured to translate messages from the second format to the first format.

2. (Original) The network interface unit as defined by claim 1 wherein the service delivery unit transmits messages in the first format, further wherein the medium module processes messages received in the second format, the interface module also being configured for translating messages from the first format to the second format.

3. (Original) The network interface unit as defined by claim 1 wherein all of the different types of service delivery units in the family process data in the first format.

4. (Currently Amended) The network interface unit as defined by claim 1 wherein only the any one type of service delivery unit processes data in the first format, the other service delivery unit types in the family processing data in different formats.

5. (Currently Amended) The network interface unit as defined by claim 1 wherein the given medium is a broadband medium implementing at least one of a fiber optic technology, cable technology, or digital subscriber line technology.

6. (Currently Amended) The network interface unit as defined by claim 1 wherein the network service may include at least one of telephony, data service, audio service, video service, and Virtual Private Network network service.
7. (Original) The network interface unit as defined by claim 1 further including:
a connector for electrically and physically connecting to the service delivery unit, the connector being a single size that corresponds to the size of connectors on each of the types of service delivery units in the family.
8. (Original) The network interface unit as defined by claim 1 wherein the medium module includes a network physical layer and media control module.
9. (Original) The network interface unit as defined by claim 1 wherein the network interface unit is physically separated from the service delivery unit.
10. (Original) The network interface unit as defined by claim 1 wherein the service delivery unit and network interface unit together are configured for functioning as data communication equipment for data terminal equipment.
11. (Previously Presented) A service delivery unit for providing a network service, comprising:
an apparatus cooperating with a network interface unit to function as data communication equipment to a network for data termination equipment, the network interface unit being any one type of a plurality of different types of network interface units, each type of network interface unit having the connection logic for connecting to a network medium that is different than the network mediums to which the other types of network interface units can connect, the network interface unit processing messages received in a first format;
a network service module that provides the network service, the network service module transmitting messages toward the network interface unit in a second format; and

an interface module configured for receiving messages transmitted between the network service module and the network interface unit, the interface module being configured to translate messages from the second format to the first format.

12. (Original) The service delivery unit as defined by claim 11 wherein the network interface unit transmits messages in the first format, further wherein the network service module processes messages received in the second format, the interface module also being configured to translate messages from the first format to the second format.

13. (Original) The service delivery unit as defined by claim 11 wherein all of the types of network interface units process data in the first format.

14. (Original) The service delivery unit as defined by claim 11 wherein only the network interface unit processes data in the first format, the other types of network interface units processing data in different formats.

15. (Original) The service delivery unit as defined by claim 11 wherein the network mediums each are a broadband medium implementing at least one of a fiber optic technology, cable technology, or digital subscriber line technology.

16. (Currently Amended) The service delivery unit as defined by claim 11 wherein the network service may include at least one of telephony, data service, audio service, video service, and Virtual Private Network network service.

17. (Original) The service delivery unit as defined in claim 11 further including:
a connector for electrically and physically connecting to the network interface unit, the connector being a single size that corresponds to the size of connectors on each of the different types of network interface units.

18. (Original) The service delivery unit as defined by claim 11 wherein the network service module includes application specific hardware and software for providing the network service.

19. (Original) The service delivery unit as defined in claim 11 wherein the service delivery unit is physically separated from the network interface unit.
20. (Original) A modular data communication equipment system comprising:
a family of different types of network interface units, each type of network interface unit having connection logic for connecting to a network medium that is different than the connection media to which the other types of network interface units can connect;
a family of different types of service delivery units, each type of service delivery unit providing a network service that is different than the service provided by other types of service delivery units,
the network interface units being configured to communicate with at least one service delivery unit via formatted messages; and
an interface configured to convert the format of messages transmitted between any one type of the network interface units and any one type of the service delivery units.
21. (Original) The system as defined by claim 20 wherein the interface is distributed across the network interface units and the service delivery units.
22. (Original) The system as defined by claim 20 wherein the interface is configured to receive messages that are specific to one of any type of service delivery unit, the interface also being configured to convert the format of the received messages to a format that is specific to one of any type of network interface unit.
23. (Original) The system as defined by claim 20 wherein the network medium is a broadband medium implementing at least one of fiber optic technology, cable technology, or digital subscriber line technology.
24. (Currently Amended) The system as defined by claim 20 wherein the network service may include at least one of telephony, data service, audio service, video service, and Virtual Private Network network service.

25. (Original) The system as defined by claim 20 wherein each type of network interface unit includes a first connector for electrically and physically connecting to one service delivery unit.

26. (Original) The system as defined by claim 25 wherein each type of service delivery unit includes a second connector for electrically and physically connecting to the first connector, the first connector being a single size that corresponds to the size of the second connector.

27. (Original) The system as defined by claim 20 wherein each network interface unit is physically separated from each service delivery unit.

REMARKS

Applicant has carefully studied the Final Office Action of June 7, 2005, and offers the following amendments and remarks in response thereto.

Applicant appreciates the telephonic interview with Examiner Phunkulh on August 2, 2005 when several matters were discussed. Where appropriate, comments from the interview are included below and serve as the Interview Summary as required by the MPEP.

Claim 1 was objected to because of an informality. Applicant herein amends claim 1 to correct the error. No new matter is added, and Applicant requests withdrawal of the objection to claim 1.

Claims 4-6, 16, and 24 are amended to correct a few typographical errors. No new matter is added.

Before addressing the rejections, Applicant provides a brief summary of the present invention so that the remarks presented may be considered in the proper context. The present invention is designed to facilitate the use of multiple types of customer premises equipment with a single communication network. Specifically, the present invention provides a network interface unit that connects the customer premises equipment to the medium of the communication network. The customer premises equipment is described as data communication equipment (DCE) in the specification and is also described as a service delivery unit. On page 6, lines 5-7 of the specification, the service delivery unit is equated to the DCE of the specification. The network interface unit operates in a first format (the SDU format of Figure 3) to communicate with the service delivery units and a second format (the NIU format of Figure 3) to communicate with the medium of the communication network.

Claims 1-4, 6-14, 16-22, and 24-27 were rejected under 35 U.S.C. § 102(b) as being anticipated by Abensour et al. (hereinafter "Abensour"). Applicant respectfully traverses. For the Patent Office to establish anticipation, the Patent Office must show where each and every claim element is located in the reference. Furthermore, the elements of the reference must be arranged as claimed. MPEP § 2131.

During the telephonic interview, Applicant provided the summary of the present invention set forth above to the Examiner. Specifically, Applicant contrasted the service delivery units, which amount to customer premises equipment, from the Frame Relay 24 and the switched multimegabit data service (SMDS) 22 of Abensour, which are both network elements

outside of the customer premises. The Examiner requested clarification as to the formats recited in the claims, especially as related to the embodiment of Figure 3. As indicated above, in the embodiment of Figure 3, the first format of claim 1 corresponds to the SDU format of Figure 3, and the second format of claim 1 corresponds to the NIU format of Figure 3. Both formats are used by the network interface unit of claim 1. Based on this clarification, the Examiner preliminarily indicated that he saw the distinction between the invention and Abensour. In light of this indication, Applicant requests reconsideration of the rejection of claims 1-4 and 6-10. Applicant understands that this reconsideration may require a further search.

Like claim 1, independent claim 11 has the first and second formats and defines over Abensour for the same reasons as claim 1. Claims 12-24 and 16-19 depend from claim 11 and are allowable for the same reasons.

Claim 20 has the different service delivery units as well and defines over Abensour for the reasons set forth above. Claims 21, 22, and 24-27 depend from claim 20 and are allowable at least for the same reasons.

In light of the distinctions between the claims and Abensour, Applicant requests withdrawal of the § 102 rejection of claims 1-4, 6-14, 16-22, and 24-27 at this time.

Claims 5, 15, and 23 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Abensour. Applicant respectfully traverses. For the Patent Office to modify a reference in an obviousness rejection, the Patent Office must do two things. First, the Patent Office must articulate a motivation to modify the reference, and second, the Patent Office must support the articulated motivation with actual evidence. *In re Kotzab*, 217 F.3d 13654, 1370 (Fed. Cir. 2000). Even if the Patent Office provides a proper motivation, to establish *prima facie* obviousness, the Patent Office must show where each and every element of the claim is taught or suggested. MPEP § 2143.03.

Applicant initially traverses the rejection because the Patent Office has not properly supported the motivation to modify the reference. Specifically, the Patent Office asserts that the motivation to modify Abensour is "to take advantage of widely available and used technology." (Office Action of June 7, 2005, page 10, lines 14-15). This motivation is unsupported by evidence as required by the Federal Circuit. Since the motivation is not properly supported, the motivation is improper. Since the motivation is improper, the modification to Abensour is improper. Since the modification to Abensour is improper, the rejection based on the

modification is improper. Since the rejection is improper, Applicant requests withdrawal of the § 103 rejection at this time.

Even if the modification is proper, a point which Applicant does not concede, Applicant further traverses the rejection because the modification to Abensour does not teach the two formats recited in the claims, nor does the modification teach the family of service delivery units recited in the claims as explained above. Applicant requests withdrawal of the § 103 rejection for this reason as well.

Applicant requests reconsideration of the rejections in light of the remarks presented herein. Applicant earnestly solicits claim allowance at the Examiner's earliest convenience.

Respectfully submitted,

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

By:

Benjamin S. Withrow
Registration No. 40,876
P.O. Box 1287
Cary, NC 27512
Telephone: (919) 654-4520

Date: August 8, 2005
Attorney Docket: 7000-414A

CERTIFICATE OF TRANSMISSION
I HEREBY CERTIFY THAT THIS DOCUMENT IS BEING TRANSMITTED VIA FACSIMILE ON THE DATE INDICATED BELOW TO:
Examiner: <u>Piunketh, Bob A.</u> Art Unit: <u>2661</u> Fax: <u>571-273-8300</u>
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<u>Rebecca Rooks</u> Signature
<u>8-8-05</u> Date of Transmission

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PATENT APPLICATION FEE DETERMINATION RECORD					Application or Document Number 09/884684	
Substitute for Form PTO-875						
CLAIMS AS FILED - PART I						
(Column 1)		(Column 2)			SMALL ENTITY OR OTHER THAN SMALL ENTITY	
FOR	NUMBER FILED	NUMBER EXTRA			RATE	FEE
BASIC FEE (37 CFR 1.16(a))						\$ _____
TOTAL CLAIMS (37 CFR 1.16(c))	minus 20 *				X \$ _____ =	
INDEPENDENT CLAIMS (37 CFR 1.16(b))	minus 3 *				X \$ _____ =	
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(d))					+ \$ _____ =	
					TOTAL	
* If the difference in column 1 is less than zero, enter "0" in column 2.						
CLAIMS AS AMENDED - PART II						
(Column 1)		(Column 2)		(Column 3)		
AMENDMENT 1	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE	ADDITIONAL FEE
Total (37 CFR 1.16(a))	27	minus 27			X \$ _____ =	
Independent (37 CFR 1.16(b))	3	minus 3			X \$ _____ =	
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(d))					+ \$ _____ =	
					TOTAL ADD'L FEE	
2/10/05						
AMENDMENT 2	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE	ADDITIONAL FEE
Total (37 CFR 1.16(a))	27	minus 27			X \$ _____ =	
Independent (37 CFR 1.16(b))	3	minus 3			X \$ _____ =	
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(d))					+ \$ _____ =	
					TOTAL ADD'L FEE	
2/10/05						
AMENDMENT 3	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE	ADDITIONAL FEE
Total (37 CFR 1.16(a))		minus			X \$ _____ =	
Independent (37 CFR 1.16(b))		minus			X \$ _____ =	
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(d))					+ \$ _____ =	
					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.
 This collection of information is required by 37 CFR 1.16. 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, 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.

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Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	93	service near2 delivery near2 unit	US-PGPUB; USPAT	OR	ON	2005/08/12 12:53
S2	4	S1 and network near2 interface near2 unit	US-PGPUB; USPAT	OR	ON	2005/08/12 12:55
S3	8	sdu and niu	US-PGPUB; USPAT	OR	ON	2005/08/12 12:55
S4	540	(service and delivery and unit).clm.	US-PGPUB	OR	ON	2005/08/12 12:57
S5	143	(service same delivery same unit).clm.	US-PGPUB	OR	ON	2005/08/12 12:58
S6	624	370/466-467.ccls.	US-PGPUB	OR	ON	2005/08/12 12:58
S7	1	S5 and S6	US-PGPUB	OR	ON	2005/08/12 12:58



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NOTICE OF ALLOWANCE AND FEE(S) DUE

27820 7590 08/19/2005
WITHROW & TERRANOVA, P.L.L.C.
P.O. BOX 1287
CARY, NC 27512

EXAMINER

PHUNKULH, BOB A

ART UNIT PAPER NUMBER

2661

DATE MAILED: 08/19/2005

Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.
09/884,684 06/19/2001 Juan O. Rodriguez 7000-414A 5201

TITLE OF INVENTION: MODULAR DATA COMMUNICATION EQUIPMENT SYSTEM

Table with 6 columns: APPLN. TYPE, SMALL ENTITY, ISSUE FEE, PUBLICATION FEE, TOTAL FEE(S) DUE, DATE DUE
nonprovisional NO \$1400 \$0 \$1400 11/21/2005

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 REFLECTS A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE APPLIED IN THIS APPLICATION. THE PTOL-85B (OR AN EQUIVALENT) MUST BE RETURNED WITHIN THIS PERIOD EVEN IF NO FEE IS DUE OR THE APPLICATION WILL BE REGARDED AS ABANDONED.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

- A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.
B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

- A. Pay TOTAL FEE(S) DUE shown above, or
B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL should be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). Even if the fee(s) have already been paid, Part B - Fee(s) Transmittal should be completed and returned. 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.

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**
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P.O. Box 1450
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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)

27820 7590 08/19/2005

WITHROW & TERRANOVA, P.L.L.C.
P.O. BOX 1287
CARY, NC 27512

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.
09/884,684	06/19/2001	Juan O. Rodriguez	7000-414A	5201

TITLE OF INVENTION: MODULAR DATA COMMUNICATION EQUIPMENT SYSTEM

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1400	\$0	\$1400	11/21/2005

EXAMINER	ART UNIT	CLASS-SUBCLASS
PHUNKULH, BOB A	2661	370-463000

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, _____ 1
 (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. _____ 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 enclosed:
 Issue Fee
 Publication Fee (No small entity discount permitted)
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4b. Payment of Fee(s):
 A check in the amount of the fee(s) is enclosed.
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5. Change in Entity Status (from status indicated above)
 a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

The Director of the USPTO is requested to apply the Issue Fee and Publication Fee (if any) or to re-apply any previously paid issue fee to the application identified above.
 NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____ Date _____
 Typed or printed name _____ Registration No. _____

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DATE MAILED: 08/19/2005

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 811 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 811 day(s).

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 Customer Service Center of the Office of Patent Publication at (703) 305-8283.

Notice of Allowability

Application No.	Applicant(s)	
09/884,684	RODRIGUEZ ET AL.	
Examiner	Art Unit	
Bob A. Phunkulh	2661	

-- 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 8/8/2005.
2. The allowed claim(s) is/are 1-27.
3. The drawings filed on 19 June 2001 are accepted by the Examiner.
4. Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - 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. A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) hereto or 2) to Paper No./Mail Date _____.
 - (b) 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).
7. 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. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |


BOB PHUNKULH
PRIMARY EXAMINER



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Bib Data Sheet

CONFIRMATION NO. 5201

Table with 5 columns: SERIAL NUMBER (09/884,684), FILING DATE (06/19/2001), CLASS (370), GROUP ART UNIT (2661), ATTORNEY DOCKET NO. (7000-414A). Includes a 'RULE' field.

APPLICANTS

Juan O. Rodriguez, Alpharetta, GA;

David J. Berman, Swampscott, MA;
James D. Lakin, Roswell, GA;

BAP

** CONTINUING DATA *****

This application is a CON of 09/753,014 01/02/2001 ABN

** FOREIGN APPLICATIONS *****

BAPLAWSONE)

IF REQUIRED, FOREIGN FILING LICENSE GRANTED

** 07/10/2001

Table with 5 columns: Foreign Priority claimed (yes/no), 35 USC 119 (a-d) conditions met (yes/no/Not after Allowance), STATE OR. COUNTRY (GA), SHEETS DRAWING (6), TOTAL CLAIMS (27), INDEPENDENT CLAIMS (3).


ADDRESS

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WITHROW & TERRANOVA, P.L.L.C.
P.O. BOX 1287
CARY, NC
27512


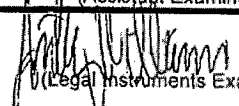
TITLE

Modular data communication equipment system

Table with 2 columns: FILING FEE RECEIVED (836) and FEES: Authority has been given in Paper No. to charge/credit DEPOSIT ACCOUNT No. for following: (List of fee options: All Fees, 1.16 Fees (Filing), 1.17 Fees (Processing Ext. of time), 1.18 Fees (Issue), Other, Credit).

Issue Classification 	Application/Control No.	Applicant(s)/Patent under Reexamination	
	09/884,684	RODRIGUEZ ET AL.	
	Examiner	Art Unit	
	Bob A. Phunkulh	2661	

ISSUE CLASSIFICATION										
ORIGINAL					CROSS REFERENCE(S)					
CLASS	SUBCLASS				CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)				
370	466				370	419				
INTERNATIONAL CLASSIFICATION										
H	0	4	J	3/16						
				/						
				/						
				/						
				/						

(Assistant Examiner) (Date)	 BOB A. PHUNKULH (Primary Examiner)	Total Claims Allowed: 27	
 (Legal Instruments Examiner)		8/18/05 (Date)	O.G. Print Claim(s) 1

<input checked="" type="checkbox"/> Claims renumbered in the same order as presented by applicant										<input type="checkbox"/> CPA		<input type="checkbox"/> T.D.		<input type="checkbox"/> R.1.47	
Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
	1		31		61		91		121		151		181		
	2		32		62		92		122		152		182		
	3		33		63		93		123		153		183		
	4		34		64		94		124		154		184		
	5		35		65		95		125		155		185		
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	29		59		89		119		149		179		209		
	30		60		90		120		150		180		210		

OK to enter BAP 8/12/05

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Juan O. Rodriguez et al.
Serial No. 09/884,684
Filed: 06/19/2001
For: **MODULAR DATA COMMUNICATION EQUIPMENT SYSTEM**

Examiner: Phunkulh, Bob A.
Art Unit: 2661

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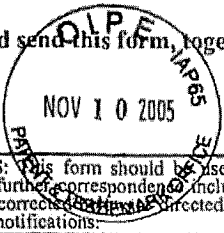
RESPONSE TO THE FINAL OFFICE ACTION MAILED JUNE 7, 2005

In response to the final office action mailed June 7, 2005, Applicant offers the following 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.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail

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 Alexandria, Virginia 22313-1450
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27820 7590 08/19/2005

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 CARY, NC 27512

11/14/2005 MBERHE1 00000038 09884684

01 FC:1501 1400.00 DP
 02 FC:8001 3.00 DP

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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.

Jennifer Alkove	(Depositor's name)
Jennifer Alkove	(Signature)
November 8, 2005	(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/884,684	06/19/2001	Juan O. Rodriguez	7000-414A	5201

TITLE OF INVENTION: MODULAR DATA COMMUNICATION EQUIPMENT SYSTEM

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1400	\$0	\$1400	11/21/2005

EXAMINER	ART UNIT	CLASS-SUBCLASS
PHUNKULH, BOB A	2661	370-463000

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.

WITHROW & TERRANOVA, PLLC

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: NORTEL NETWORKS LIMITED

(B) RESIDENCE: (CITY and STATE OR COUNTRY) ST. LAURENT, CANADA

Please check the appropriate assignee category or categories (will not be printed on the patent): Individual Corporation or other private group entity Government

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4b. Payment of Fee(s):

A check in the amount of the fee(s) is enclosed.

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

The Director is hereby authorized by charge the required fee(s), or credit any overpayment, to Deposit Account Number 50-1732 (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

The Director of the USPTO is requested to apply the Issue Fee and Publication Fee (if any) or to re-apply any previously paid issue fee to the application identified above. NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature: BENJAMIN S. WITHROW Date: 11/8/05

Typed or printed name: BENJAMIN S. WITHROW Registration No. 40,876

This collection of information 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.

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CHANGE OF CORRESPONDENCE ADDRESS <i>Application</i> Address to: Commissioner for Patents PO Box 1450 Alexandria, VA 22313-1450	Application Number	09/884,684
	Filing Date	06/19/2001
	First Named Inventor	Juan O. Rodriguez
	Group Art Unit	2661
	Examiner Name	Phunkulh, Bob A.
	Attorney Docket Number	7000-414A

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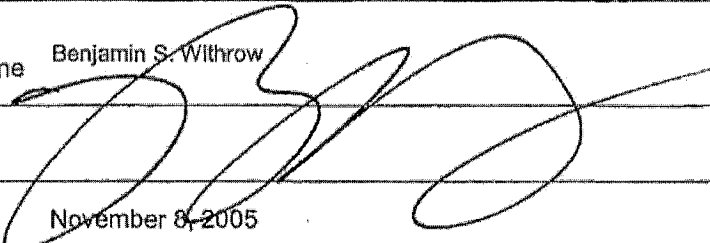
Applicant.

Assignee of record of the entire interest. Certificate under 37 CFR 3.73(b) is enclosed.

Attorney or agent of record, Reg. No. 40,876.

Registered practitioner named in the application transmittal letter in an application without an executed oath or declaration. See 37 CFR 1.33(a)(1). Registration Number

Typed or Printed Name Benjamin S. Withrow

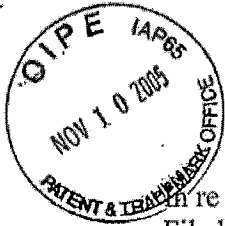
Signature 

Date November 8, 2005

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

*Total of ___ forms are submitted.

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, USPTO, PO Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, PO Box 1450, Alexandria, VA 22313-1450



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Rodriguez *et al.*

Filed: 06/19/2001

Serial Number: 09/884,684

For: **MODULAR DATA COMMUNICATION EQUIPMENT SYSTEM**

Examiner: Phunkulh, Bob A.

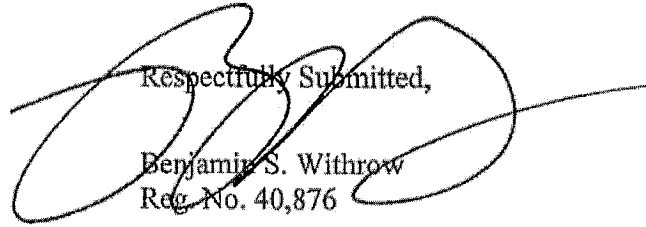
Group: 2661

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

Sir:

SUBMISSION OF ISSUE FEE

In accordance with the Notice of Allowance and Issue Fee Due dated August 19, 2005, we herewith transmit the issue fee for the above-identified application. Also enclosed is a change of correspondence address form and a fee address indication form.

Respectfully Submitted,

Benjamin S. Withrow
Reg. No. 40,876

Withrow & Terranova, P.L.L.C.

Customer No. 27820

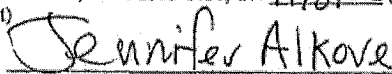

P.O. Box 1287

Cary, NC 27512

(919) 654-4520

Date: November 8, 2005

File No: 7000-414A

CERTIFICATE OF MAILING
I HEREBY CERTIFY THAT THIS DOCUMENT IS BEING DEPOSITED WITH THE UNITED STATES POSTAL SERVICE AS FIRST-CLASS MAIL, IN AN ENVELOPE ADDRESSED TO: MAIL STOP ISSUE FEE, COMMISSIONER FOR PATENTS, PO BOX 1450, ALEXANDRIA, VA 22313-1450, ON <u>11/8/05</u> (Date of Deposit)
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<u>November 8, 2005</u> Date of Signature



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BIBDATASHEET

CONFIRMATION NO. 5201

Bib Data Sheet

SERIAL NUMBER 09/884,684	FILING OR 371(c) DATE 06/19/2001 RULE	CLASS 370	GROUP ART UNIT 2661	ATTORNEY DOCKET NO. 7000-414A
APPLICANTS Juan O. Rodriguez, Alpharetta, GA; David J. Berman, Swampscott, MA; James D. Lakin, Roswell, GA; ** CONTINUING DATA ***** This application is a CON of 09/753,014 01/02/2001 ABN ** FOREIGN APPLICATIONS ***** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** 07/10/2001				
Foreign Priority claimed <input type="checkbox"/> yes <input type="checkbox"/> no 35 USC 119 (a-d) conditions met <input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> Met after Allowance Verified and Acknowledged _____ Examiner's Signature _____ Initials _____	STATE OR COUNTRY GA	SHEETS DRAWING 6	TOTAL CLAIMS 27	INDEPENDENT CLAIMS 3
ADDRESS 22033				
TITLE MODULAR DATA COMMUNICATION EQUIPMENT SYSTEM				
FILING FEE RECEIVED 836	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:	<input type="checkbox"/> All Fees <input type="checkbox"/> 1.16 Fees (Filing) <input type="checkbox"/> 1.17 Fees (Processing Ext. of time) <input type="checkbox"/> 1.18 Fees (Issue) <input type="checkbox"/> Other _____ <input type="checkbox"/> Credit		

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT2790193

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
ROCKSTAR CONSORTIUM US LP	02/27/2014

RECEIVING PARTY DATA

Name:	SPHERIX PORTFOLIO ACQUISITION II, INC.
Street Address:	7927 JONES BRANCH DRIVE
City:	TYSON'S CORNER
State/Country:	VIRGINIA
Postal Code:	22102

PROPERTY NUMBERS Total: 48

Property Type	Number
Patent Number:	5959990
Patent Number:	RE40999
Patent Number:	6111876
Patent Number:	7158515
Patent Number:	6697325
Patent Number:	6970461
Patent Number:	5970125
Patent Number:	7277533
Patent Number:	8391275
Patent Number:	6578086
Patent Number:	6130877
Patent Number:	6222848
Patent Number:	6404765
Patent Number:	6807174
Patent Number:	7397763
Patent Number:	7664123
Patent Number:	6745243
Patent Number:	6882800
Patent Number:	8189575
Patent Number:	8582569
Patent Number:	6661788

Property Type	Number
Patent Number:	6952740
Patent Number:	6422876
Patent Number:	7274704
Patent Number:	6427185
Patent Number:	RE40467
Patent Number:	7031296
Patent Number:	6788671
Patent Number:	6466986
Patent Number:	6765925
Patent Number:	6980564
Patent Number:	7385998
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Patent Number:	5751967
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Patent Number:	6490249
Patent Number:	6507648
Patent Number:	6345047
Patent Number:	7366183
Patent Number:	8166533
Patent Number:	8607323
Patent Number:	7478167
Patent Number:	6839322
Patent Number:	7869362
Patent Number:	8325707
Patent Number:	6879594

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ATTORNEY DOCKET NUMBER:	SPEX001
NAME OF SUBMITTER:	DARRELL G. DOTSON
SIGNATURE:	/darrell dotson PTO#44661/

DATE SIGNED:	03/28/2014
	This document serves as an Oath/Declaration (37 CFR 1.63).
Total Attachments: 9 source=Patent Assignment RS to Spherix#page1.tif source=Patent Assignment RS to Spherix#page2.tif source=Patent Assignment RS to Spherix#page3.tif source=Patent Assignment RS to Spherix#page4.tif source=Patent Assignment RS to Spherix#page5.tif source=Patent Assignment RS to Spherix#page6.tif source=Patent Assignment RS to Spherix#page7.tif source=Patent Assignment RS to Spherix#page8.tif source=Patent Assignment RS to Spherix#page9.tif	

Exhibit A

ASSIGNMENT

Effective as of December 31, 2013, for good and valuable consideration, the receipt of which is hereby acknowledged, Rockstar Consortium US LP, a Delaware limited partnership having a primary place of business at Legacy Town Center I, 7160 N. Dallas Parkway, Suite 250, Plano, Texas 75024 ("*Assignor*"), does hereby sell, assign, transfer and convey unto Spherix Portfolio Acquisition II, Inc., a Delaware corporation with an office at 7927 Jones Branch Drive, Tysons Corner, VA 22102 ("*Assignee*") or its designees, all of Assignor's right, title and interest in and to (a) all patents and patent applications listed below; (b) any patents required to make the issued patents listed below enforceable because of a terminal disclaimer filed prior to December 31, 2013 (c) the inventions, discoveries and improvements described or claimed in any or all of the foregoing (collectively "*Patent Rights*");

Patent No.	Serial No.	Country	Filing Date	Issue Date	Title
5,959,990	08/613,726	US	03/12/96	09/28/99	VLAN FRAME FORMAT
RE40,999	10/225,708	US	08/22/02	11/24/09	VLAN FRAME FORMAT
N/A	12/459,465	US	06/30/09	N/A	VLAN FRAME FORMAT
N/A	13/728,823	US	12/27/12	N/A	VLAN FRAME FORMAT
N/A	13/728,838	US	12/27/12	N/A	VLAN FRAME FORMAT
N/A	13/728,846	US	12/27/12	N/A	VLAN FRAME FORMAT
N/A	13/728,867	US	12/27/12	N/A	VLAN FRAME FORMAT
N/A	13/728,698	US	12/27/12	N/A	VLAN FRAME FORMAT
N/A	13/728,747	US	12/27/12	N/A	VLAN FRAME FORMAT
N/A	13/728,770	US	12/27/12	N/A	VLAN FRAME FORMAT
N/A	13/728,787	US	12/27/12	N/A	VLAN FRAME FORMAT
6,111,876	08/705,631	US	08/30/96	08/29/00	VLAN FRAME FORMAT
7,158,515	09/611,447	US	07/06/00	01/02/07	METHOD OF OPTICAL NETWORK BANDWIDTH REPRESENTATION FOR OPTICAL LABEL SWITCHING NETWORKS

Patent No.	Serial No.	Country	Filing Date	Issue Date	Title
6,697,325	09/455,653	US	11/07/99	02/24/04	SYSTEM, DEVICE, AND METHOD FOR EXPEDITING RECONVERGENCE IN A COMMUNICATION NETWORK
6,970,463	09/728,360	US	11/29/00	11/29/05	ACCESS CONTROL ENHANCEMENTS FOR DELIVERY OF VIDEO AND OTHER SERVICES
1 340 336	01999074.6	GB	11/27/01	07/22/09	ACCESS CONTROL ENHANCEMENTS, NETWORK ACCESS UNIT AND SERVICE PROVIDER SERVER FOR DELIVERY OF VIDEO AND OTHER SERVICES
1 340 336	01999074.6	FR	11/27/01	07/22/09	ACCESS CONTROL ENHANCEMENTS, NETWORK ACCESS UNIT AND SERVICE PROVIDER SERVER FOR DELIVERY OF VIDEO AND OTHER SERVICES
1 840 236	60138437.6	DE	11/27/01	07/22/09	ACCESS CONTROL ENHANCEMENTS, NETWORK ACCESS UNIT AND SERVICE PROVIDER SERVER FOR DELIVERY OF VIDEO AND OTHER SERVICES
10-0985327	10-2003-7907244	KR	11/27/01	02/23/09	ACCESS CONTROL ENHANCEMENTS, NETWORK ACCESS UNIT AND SERVICE PROVIDER FOR DELIVERY OF VIDEO AND OTHER SERVICES
2,430,350	2430350	CA	11/27/01	04/17/12	ACCESS CONTROL ENHANCEMENTS, NETWORK ACCESS UNIT AND SERVICE PROVIDER SERVER FOR DELIVERY OF VIDEO AND OTHER SERVICES
N/A	2763099	CA	11/27/01	N/A	ACCESS CONTROL ENHANCEMENTS, NETWORK ACCESS UNIT AND SERVICE PROVIDER SERVER FOR DELIVERY OF VIDEO AND OTHER SERVICES
5,970,125	08/833,752	US	09/23/97	10/19/99	METHOD, SYSTEM AND APPARATUS FOR CAUSING CUSTOMER PREMISES EQUIPMENT TO AUTOMATICALLY CALL A TELECOMMUNICATIONS SERVER
7,277,533	09/733,128	US	11/07/00	10/02/07	PROVIDING CALLING PARTY INFORMATION IN A REQUEST TO ESTABLISH A CALL SESSION

Patent No.	Serial No.	Country	Filing Date	Issue Date	Title
8,391,275	11/811,113	US	08/08/07	08/05/13	PROVIDING CALLING PARTY INFORMATION IN A REQUEST TO ESTABLISH A CALL SESSION
N/A	13/728,835	US	12/26/12	N/A	PROVIDING CALLING PARTY INFORMATION IN A REQUEST TO ESTABLISH A CALL SESSION
N/A	03030847.A	EP	11/08/01	N/A	PROVIDING CALLING PARTY INFORMATION IN A REQUEST TO ESTABLISH A CALL SESSION
N/A	10178603.B	EP	11/08/01	N/A	PROVIDING CALLING PARTY INFORMATION IN A REQUEST TO ESTABLISH A CALL SESSION
6,575,086	08/405,982	US	09/27/99	06/10/03	DYNAMICALLY MANAGING THE TOPOLOGY OF A DATA NETWORK
6,130,877	08/862,302	US	05/23/97	10/10/00	RATE CONTROLLED BROADCAST FOR ACTIVATION OF ENTITIES IN LARGE SCALE DATA NETWORKS
6,272,848	08/996,172	US	12/22/97	04/24/01	GIGABIT ETHERNET INTERFACE TO SYNCHRONOUS OPTICAL NETWORK (SONET) RING
0 924 901	98310614.7	GB	12/22/98	11/03/04	GIGABIT ETHERNET INTERFACE TO SYNCHRONOUS OPTICAL NETWORK (SONET) RING
1 441 481	04076023.3	GB	03/30/04	06/01/11	GIGABIT ETHERNET INTERFACE TO SYNCHRONOUS OPTICAL NETWORK (SONET) RING
2 259 499	10182541.2	GB	03/30/04	04/03/12	GIGABIT ETHERNET INTERFACE TO SYNCHRONOUS OPTICAL NETWORK (SONET) RING
0 924 901	98310614.7	FR	12/22/98	11/03/04	GIGABIT ETHERNET INTERFACE TO SYNCHRONOUS OPTICAL NETWORK (SONET) RING
1 441 481	04076023.3	FR	03/30/04	06/01/11	GIGABIT ETHERNET INTERFACE TO SYNCHRONOUS OPTICAL NETWORK (SONET) RING

Patent No.	Serial No.	Country	Filing Date	Issue Date	Title
2 250 499	10182541.2	FR	03/30/04	04/03/13	GIGABIT ETHERNET INTERFACE TO SYNCHRONOUS OPTICAL NETWORK (SONET) RING
69827349.4	98310614.7	DE	12/22/98	11/03/04	GIGABIT ETHERNET INTERFACE TO SYNCHRONOUS OPTICAL NETWORK (SONET) RING
1 441 481	04076023.3	DE	09/30/04	06/01/11	GIGABIT ETHERNET INTERFACE TO SYNCHRONOUS OPTICAL NETWORK (SONET) RING
2 250 499	10182541.2	DE	03/30/04	04/03/13	GIGABIT ETHERNET INTERFACE TO SYNCHRONOUS OPTICAL NETWORK (SONET) RING
2,256,014	2256014	CA	12/14/98	12/12/06	GIGABIT ETHERNET INTERFACE TO SYNCHRONOUS OPTICAL NETWORK (SONET) RING
0 924 901	98310614.7	CH	12/22/98	11/03/04	GIGABIT ETHERNET INTERFACE TO SYNCHRONOUS OPTICAL NETWORK (SONET) RING
0 924 901	98310614.7	FI	12/22/98	11/03/04	GIGABIT ETHERNET INTERFACE TO SYNCHRONOUS OPTICAL NETWORK (SONET) RING
0 924 901	98310614.7	IT	12/22/98	11/03/04	GIGABIT ETHERNET INTERFACE TO SYNCHRONOUS OPTICAL NETWORK (SONET) RING
0 924 901	98310614.7	LI	12/22/98	11/03/04	GIGABIT ETHERNET INTERFACE TO SYNCHRONOUS OPTICAL NETWORK (SONET) RING
0 924 901	98310614.7	NL	12/22/98	11/03/04	GIGABIT ETHERNET INTERFACE TO SYNCHRONOUS OPTICAL NETWORK (SONET) RING
0 924 901	98310614.7	SE	12/22/98	11/03/04	GIGABIT ETHERNET INTERFACE TO SYNCHRONOUS OPTICAL NETWORK (SONET) RING
6,404,765	09/073,558	US	05/05/98	06/11/02	METHOD AND APPARATUS FOR TRANSPORTING DS-X SIGNALS THROUGH A PACKET NETWORK

Patent No.	Serial No.	Country	Filing Date	Issue Date	Title
6,807,174	10/117,740	US	04/05/02	10/19/04	METHOD AND APPARATUS FOR TRANSPORTING DS-X SIGNALS THROUGH A PACKET NETWORK
7,397,783	11/355,640	US	02/18/08	07/08/08	ADMISSIONS CONTROL IN A CONNECTIONLESS COMMUNICATIONS NETWORK
7,564,323	10/763,035	US	01/22/04	02/16/10	GENERALIZED VIRTUAL ROUTER
6,745,243	02/187,069	US	08/20/98	08/01/04	METHOD AND APPARATUS FOR NETWORK CACHING AND LOAD BALANCING
6,882,800	02/703,831	US	11/02/00	04/19/05	OPTICAL SWITCHING SYSTEM FOR SWITCHING OPTICAL SIGNALS IN WAVELENGTH GROUPS
8,189,375	11/374,346	US	03/13/05	05/29/12	MODULAR SCALABLE SWITCH ARCHITECTURE
8,582,569	13/463,887	US	05/07/12	12/11/13	MODULAR SCALABLE SWITCH ARCHITECTURE
6,661,788	00/311,942	US	05/14/98	12/08/03	MULTICAST SCHEDULING FOR A NETWORK DEVICE
6,952,740	85/412,847	US	10/04/99	10/04/05	APPARATUS AND METHOD OF MAINTAINING A ROUTE TABLE
1 091 524	308770.7	GB	08/21/00	09/27/06	SWITCH FOR OPTICAL SIGNALS
1 091 524	650108.4	FR	08/21/00	09/27/06	SWITCH FOR OPTICAL SIGNALS
60030930.4	00050108.4	DE	08/21/00	09/27/06	SWITCH FOR OPTICAL SIGNALS
6,422,876	03/457,308	US	12/08/99	07/23/02	HIGH THROUGHPUT INTERCONNECTION SYSTEM USING ORTHOGONAL CONNECTORS
7,274,704	05/302,683	US	07/12/01	09/25/07	PIGGYBACKING VPN INFORMATION IN BGP FOR NETWORK BASED VPN ARCHITECTURES
6,477,185	03/886,495	US	07/17/97	07/30/02	METHOD AND APPARATUS FOR MANAGING THE FLOW OF DATA WITHIN A SWITCHING DEVICE

Patent No.	Serial No.	Country	Filing Date	Issue Date	Title
RE40,467	11/947,786	US	02/03/06	08/26/08	METHOD AND APPARATUS FOR MANAGING THE FLOW OF DATA WITHIN A SWITCHING DEVICE
7,031,386	10/330,640	US	12/27/02	04/18/06	METHOD AND APPARATUS FOR MANAGING THE FLOW OF DATA WITHIN A SWITCHING DEVICE
6,788,671	10/093,290	US	03/06/02	09/07/04	METHOD AND APPARATUS FOR MANAGING THE FLOW OF DATA WITHIN A SWITCHING DEVICE
6,466,886	09/475,388	US	12/30/99	10/15/03	METHOD AND APPARATUS FOR PROVIDING DYNAMIC HOST CONFIGURATION PROTOCOL (DHCP) TAGGING
2,317,783	2317783	CA	09/06/00	01/24/12	METHOD AND APPARATUS FOR PROVIDING DYNAMIC HOST CONFIGURATION PROTOCOL (DHCP) TAGGING
6,768,923	09/872,801	US	09/28/00	07/20/04	APPARATUS AND METHOD OF MAINTAINING STATE IN A DATA TRANSMISSION SYSTEM
6,980,564	09/884,884	US	06/19/01	12/27/05	MODULAR DATA COMMUNICATION EQUIPMENT SYSTEM
7,395,998	10/657,658	US	09/08/03	05/10/08	METHOD AND APPARATUS FOR ENCAPSULATING SERVICES FOR TRANSPORTATION OVER METALLIC PHYSICAL MEDIUMS
7,293,998	10/182,113	US	07/10/02	05/19/07	SYSTEM, DEVICE, AND METHOD FOR ROUTING INFORMATION IN A COMMUNICATION NETWORK USING POLICY EXTRAPOLATION
6,937,704	09/722,105	US	11/27/00	08/20/05	CONNECTOR CONTROLLER FOR SETTING-UP A MEDIA PATH BETWEEN A TERMINAL AND AN AUDIO SOURCE
7,123,700	09/560,019	US	04/27/03	10/17/06	CONFIGURING USER INTERFACES OF CALL DEVICES
N/A	019240639.6	EP	04/03/01	N/A	CONFIGURING USER INTERFACES OF CALL DEVICES

Patent No.	Serial No.	Country	Filing Date	Issue Date	Title
N/A	10180282.1	EP	04/03/01	N/A	CONFIGURING USER INTERFACES OF CALL DEVICES
5,751,967	08/880,113	US	07/15/96	05/12/98	METHOD AND APPRATUS FOR AUTOMATICALLY CONFIGURING A NETWORK DEVICE TO SUPPORT A VIRTUAL NETWORK
6,355,557	09/065,430	US	04/29/98	04/02/02	METHOD AND APPARATUS FOR A GIGABIT ETHERNET MAC (GMAC)
6,490,249	09/203,104	US	12/01/98	12/03/02	ADAPTIVE CONNECTION ADMISSION CONTROL SCHEME FOR PACKET NETWORKS
6,582,648	09/213,886	US	12/23/98	01/14/03	METHOD AND APPARATUS FOR PRIORITIZING VOICE AND DATA IN A CIRCUIT-SWITCHED NETWORK
6,345,047	09/095,468	US	06/12/98	02/05/02	COMPUTER TELEPHONY ADAPTER AND METHOD
7,385,183	10/436,518	US	05/16/03	04/29/08	DETECTING MULTIMEDIA CAPABILITY OF A CALLER
8,165,533	10/542,254	US	08/15/03	04/24/12	METHOD FOR PROVIDING MEDIA COMMUNICATION ACROSS FIREWALLS
8,603,323	13/536,330	US	04/11/12	10/12/13	METHOD FOR PROVIDING MEDIA COMMUNICATION ACROSS FIREWALLS
N/A	14/039,775	US	12/06/13	N/A	METHOD FOR PROVIDING MEDIA COMMUNICATION ACROSS FIREWALLS
7,476,167	10/389,897	US	03/18/03	01/13/09	RESOURCE ALLOCATION USING AN AUTO-DISCOVERY MECHANISM FOR PROVIDER-PROVISIONED LAYER-2 AND LAYER-3 VIRTUAL PRIVATE NETWORKS
6,931,336.1	03707963.9	DE	03/18/03	04/18/07	RESOURCE ALLOCATION USING AN AUTO-DISCOVERY MECHANISM FOR PROVIDER-PROVISIONED LAYER-2 AND LAYER-3 VIRTUAL PRIVATE NETWORKS
1 468 577	03707963.9	FR	03/18/03	04/18/07	RESOURCE ALLOCATION USING AN AUTO-DISCOVERY MECHANISM FOR PROVIDER-PROVISIONED LAYER-2 AND LAYER-3 VIRTUAL PRIVATE NETWORKS

Patent No.	Serial No.	Country	Filing Date	Issue Date	Title
1 488 577	03707963.9	GB	03/18/03	04/18/07	RESOURCE ALLOCATION USING AN AUTO- DISCOVERY MECHANISM FOR PROVIDER- PROVISIONED LAYER-2 AND LAYER-3 VIRTUAL PRIVATE NETWORKS
6,829,322	09/501,517	US	02/09/00	01/04/05	METHOD AND SYSTEM FOR OPTICAL ROUTING VARIABLE-LENGTH PACKET DATA
7,869,562	10/065,878	US	10/18/04	01/11/11	METHOD AND SYSTEM FOR OPTICAL ROUTING VARIABLE-LENGTH PACKET DATA
1 126 740	01301171.3	GB	02/09/01	07/01/09	METHOD AND SYSTEM FOR OPTICAL ROUTING VARIABLE-LENGTH PACKET DATA
1 126 740	01301171.3	FR	02/09/01	07/01/09	METHOD AND SYSTEM FOR OPTICAL ROUTING VARIABLE-LENGTH PACKET DATA
60139095. 4	01301171.3	DE	02/09/01	07/01/09	METHOD AND SYSTEM FOR OPTICAL ROUTING VARIABLE-LENGTH PACKET DATA
2,334,549	2334588	CA	02/08/01	05/16/09	METHOD AND SYSTEM FOR OPTICAL ROUTING VARIABLE-LENGTH PACKET DATA
8,325,707	11/408,830	US	04/21/06	12/04/12	SESSION INITIATION FROM APPLICATION SERVERS IN AN IP MULTIMEDIA SUBSYSTEM
N/A	13/581,631	US	11/20/12	N/A	SESSION INITIATION FROM APPLICATION SERVERS IN AN IP MULTIMEDIA SUBSYSTEM
N/A	2605475	CA	04/21/06	N/A	SESSION INITIATION FROM APPLICATION SERVERS IN AN IP MULTIMEDIA SUBSYSTEM
N/A	06744537.9	EP	04/21/06	N/A	SESSION INITIATION FROM APPLICATION SERVERS IN AN IP MULTIMEDIA SUBSYSTEM
N/A	08106619.0	HK	04/21/06	N/A	SESSION INITIATION FROM APPLICATION SERVERS IN AN IP MULTIMEDIA SUBSYSTEM
5,878,594	08/528,533	US	06/07/00	04/12/05	SYSTEM AND METHOD FOR LOOP AVOIDANCE IN MULTI-PROTOCOL LABEL SWITCHING
60022057. 5	00938372.0	DE	06/07/00	07/07/05	METHOD FOR AVOIDING LOOPS IN MPLS
1 201 061	00938372.0	GB	06/07/00	07/07/05	METHOD FOR AVOIDING LOOPS IN MPLS

Patent No.	Serial No.	Country	Filing Date	Issue Date	Title
1 201 061	00938372.0	FR	06/07/00	07/07/05	METHOD FOR AVOIDING LOOPS IN MPLS

In addition, Assignor agrees to and hereby does sell, assign, transfer and convey unto Assignee all Assignor's rights (i) in and to causes of action and enforcement rights for the Patent Rights including all of Assignor's rights to pursue damages, injunctive relief and other remedies for past, present and future infringement of the Patent Rights, (ii) to apply (or continue prosecution) in any and all countries of the world for patents, design patents, utility models, certificates of invention or other governmental grants for the Patent Rights, including without limitation under the Paris Convention for the Protection of Industrial Property, the International Patent Cooperation Treaty, or any other convention, treaty, agreement or understanding, and (iii) to revive prosecution of any abandoned Patent Rights.

Assignor also hereby authorizes the respective patent office or governmental agency in each jurisdiction to issue any and all patents or certificates of invention or equivalent which may be granted upon any of the Patent Rights in the name of Assignee, as the assignee to the entire interest therein.

The terms and conditions of this Assignment shall inure to the benefit of Assignee, its successors, assigns and other legal representatives, and shall be binding upon Assignor, its successor, assigns and other legal representatives.

IN WITNESS WHEREOF this Assignment of Patent Rights is executed at Plano, Texas on February 27, 2014.

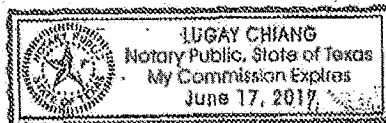
ASSIGNOR

By:


 Chad Eilyard
 Chief IP Counsel

(Signature MUST be notarized)





AO 120 (Rev. 08/10)

TO: Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
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In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court Eastern District of Virginia Alexandria Division on the following

Trademarks or Patents. (the patent action involves 35 U.S.C. § 292.);

DOCKET NO. 1:14cv721	DATE FILED 6/11/2014	U.S. DISTRICT COURT Eastern District of Virginia Alexandria Division
PLAINTIFF Spherix Incorporated		DEFENDANT Verizon Services Corp. et al
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 6,507,648 B1	6/14/2003	Spherix Incorporated
2 6,882,800 B1	4/19/2005	Spherix Incorporated
3 6,980,564 B1	12/27/2005	Spherix Incorporated
4 8,166,533 B2	4/24/2012	Spherix Incorporated
5		

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY <input type="checkbox"/> Amendment <input type="checkbox"/> Answer <input type="checkbox"/> Cross Bill <input type="checkbox"/> Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1		
2		
3		
4		
5		

In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK Fernando Galindo	(BY) DEPUTY CLERK G. Walker	DATE
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Copy 1—Upon initiation of action, mail this copy to Director Copy 3—Upon termination of action, mail this copy to Director
Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy