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Alexandria, Virginia 22313-1450  
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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
11/289,179	11/29/2005	David M. Smith	5084-0008

114581  
EIP US LLP  
2468 Historic Decatur Road  
Suite 130  
San Diego, CA 92106

**CONFIRMATION NO. 7285**  
**POA ACCEPTANCE LETTER**



Date Mailed: 07/10/2014

**NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY**

This is in response to the Power of Attorney filed 07/02/2014.

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.

/Itaba/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101



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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
11/289,179	11/29/2005	David M. Smith	5084-0008

28777  
Diaz and Associates  
4100 W. Eldorado Parkway, Suite 100 # 432  
McKinney, TX 75070

**CONFIRMATION NO. 7285**  
**POWER OF ATTORNEY NOTICE**



\*OC000000069444171\*

Date Mailed: 07/10/2014

**NOTICE REGARDING CHANGE OF POWER OF ATTORNEY**

This is in response to the Power of Attorney filed 07/02/2014.

- The Power of Attorney to you in this application has been revoked by the assignee who has intervened as provided by 37 CFR 3.71.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).

/Itaba/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

## POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(c).

I hereby appoint:



Practitioners associated with Customer Number:

114581

OR



Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number

Name	Registration Number

As attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignments documents attached to this form in accordance with 37 CFR 3.73(c).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(c) to:



The address associated with Customer Number:

114581

OR

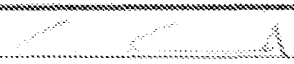
Firm or Individual Name			
Address			
City	State	Zip	
Country			
Telephone			Email

Assignee Name and Address: Metaswitch Networks Ltd  
100 Church Street  
Enfield, Middlesex EN2 6BQ, United Kingdom

A copy of this form, together with a statement under 37 CFR 3.73(c) (Form PTO/AIA/96 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(c) may be completed by one of The practitioners appointed in this form, and must identify the application in which this Power of Attorney is to be filed.

### SIGNATURE of Assignee of Record

The individual whose signature and title is supplied below is authorized to act on behalf of the assignee

Signature		Date	5/11/13
Name	Carol COPLAND	Telephone	+44 020 8366 1177
Title	Chief Legal Counsel, Metaswitch Networks Ltd		

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 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 1480, Alexandria, VA 22313-1480. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1459, Alexandria, VA 22313-1459.

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

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Smith, David M.  
Application No.: 11/289,179  
Patent No.: 7,657,018  
Filing Date: November 29, 2005  
Issue Date: February 2, 2010  
Title: METHOD AND SYSTEM FOR COMBINING  
A CONVERSION BETWEEN TIME-  
DIVISION MULTIPLEXED DIGITAL  
SIGNALS AND PACKETIZED DIGITAL  
SIGNALS WITH A SWITCHING SYSTEM  
INTERFACE  
Examiner: NGUYEN, Quynh H.  
Art Unit: 2614  
Confirmation No.: 7285

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**PETITION UNDER 37 C.F.R. §1.28 AND CHANGE OF ENTITY STATUS****Mail Stop Petition**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Assignee hereby petitions for the acceptance of a deficiency payment pursuant to 37 C.F.R. §1.28(c) in the amount of \$800.00.

The above-identified patent application was filed and issued as U.S. Patent No. 7,657,018 (“the ’018 patent”) with a correct and good faith claim of small entity status. On December 21, 2011, the ’018 patent was assigned to the present assignee, Metaswitch Networks Ltd. (“Assignee”). Assignee has discovered that it has erroneously and without deceptive intent paid the following fees as the applicable small entity rates:

<b>Type of Fee Erroneously Paid as Small Entity</b>	<b>Small Entity Fee Actually Paid with Date of Payment</b>	<b>Date of Payment</b>	<b>Current Fee Amount for Non-Small Entity</b>	<b>Deficiency Owed Amount for Each Fee Erroneously Paid</b>
<b>Fourth-year Maintenance Fee</b>	\$800.00	July 29, 2013	\$1,600.00	\$800.00
<b>Total Deficiency Owed</b>				\$800.00

Accordingly, Assignee requests that the amount of \$800.00 be deducted from Deposit Account No. 506237 for the deficiency payment as required by 37 C.F.R. §1.28(c)(2). Additionally, pursuant to 37 C.F.R. §1.27(g)(2), please change the entity status of the patent from small entity to large entity.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 506237.

Respectfully submitted,

EIP US LLP

Dated: July 2, 2014

By: /Mallory de Merlier/  
Mallory DE MERLIER  
Registration No. 51,609  
Attorney of Record  
Customer No. 114581  
(619) 795-1300

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	19484993
<b>Application Number:</b>	11289179
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	7285
<b>Title of Invention:</b>	METHOD AND SYSTEM FOR COMBINING A CONVERSION BETWEEN TIME-DIVISION MULTIPLEXED DIGITAL SIGNALS AND PACKETIZED DIGITAL SIGNALS WITH A SWITCHING SYSTEM INTERFACE
<b>First Named Inventor/Applicant Name:</b>	David M. Smith
<b>Customer Number:</b>	28777
<b>Filer:</b>	Mallary K. de Merlier/Carrie Visalli
<b>Filer Authorized By:</b>	Mallary K. de Merlier
<b>Attorney Docket Number:</b>	5084-0008
<b>Receipt Date:</b>	02-JUL-2014
<b>Filing Date:</b>	29-NOV-2005
<b>Time Stamp:</b>	19:52:12
<b>Application Type:</b>	Utility under 35 USC 111(a)

### Payment information:

Submitted with Payment	no
------------------------	----

### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Assignee showing of ownership per 37 CFR 3.73.	2014-07-02_373_Stmnt_E1013_850T_US_CP1CP1.pdf	427857 f71a03ff80925ad441d3bdf0ac8a36b31337064	no	2

### Warnings:

### Information:

2	Power of Attorney	Signed_PoA_E1013_850T_US_CP1CP1.pdf	231852 fe6a88609f2034053345d83986b5345f90014ede	no	1
<b>Warnings:</b>					
<b>Information:</b>					
3	Notification of loss of entitlement to small entity status	2014-07-02_Petition_to_Change_Entity_Status_E1013_850T_US_CP1CP1.pdf	22398 80e82a89c22198624b3439672da2f21e05c61b52	no	2
<b>Warnings:</b>					
<b>Information:</b>					
<b>Total Files Size (in bytes):</b>			682107		
<p><b>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</b></p> <p><b><u>New Applications Under 35 U.S.C. 111</u></b>  <b>If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</b></p> <p><b><u>National Stage of an International Application under 35 U.S.C. 371</u></b>  <b>If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</b></p> <p><b><u>New International Application Filed with the USPTO as a Receiving Office</u></b>  <b>If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</b></p>					

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

**STATEMENT UNDER 37 CFR 3.73(b)**

Applicant/Patent Owner: David M. Smith

Application No./Patent No.: 7,657,018

Filed/Issue Date: February 2, 2010

Titled: **METHOD AND SYSTEM FOR COMBINING A CONVERSION BETWEEN TIME-DIVISION MULTIPLEXED DIGITAL SIGNALS AND PACKETIZED DIGITAL SIGNALS WITH A SWITCHING SYSTEM INTERFACE**

**METASWITCH NETWORKS LTD.**, a corporation

(Name of Assignee)

(Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that it is:

1. ☒ the assignee of the entire right, title, and interest in;
2. ☐ an assignee of less than the entire right, title, and interest in  
(The extent (by percentage) of its ownership interest is \_\_\_\_\_ %); or
3. ☐ the assignee of an undivided interest in the entirety of (a complete assignment from one of the joint inventors was made)

the patent application/patent identified above, by virtue of either:

A. ☐ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy therefore is attached.

**OR**

B. ☒ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: David Matthew SMITH To: THE NEW CLASS-FIVE, INC.

The document was recorded in the United States Patent and Trademark Office at  
Reel 027348, Frame 0143, or for which a copy thereof is attached.

2. From: THE NEW CLASS-FIVE, INC. To: METASWITCH NETWORKS LTD.

The document was recorded in the United States Patent and Trademark Office at  
Reel 027429, Frame 0048, or for which a copy thereof is attached.

3. From: \_\_\_\_\_ To: \_\_\_\_\_

The document was recorded in the United States Patent and Trademark Office at  
Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☒ As required by 37 CFR 3.73(b)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/Mallory de Merlier/

Signature

July 2, 2014

Date

Mallory de Merlier

Printed or Typed Name

Reg. No. 51,609

Title

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 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.**

## Privacy Act Statement

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

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

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.



# UNITED STATES PATENT AND TRADEMARK OFFICE

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Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/289,179	02/02/2010	7657018	5084-0008	7285

28777 7590 01/13/2010  
MICHAEL L. DIAZ, P.C.  
555 REPUBLIC DRIVE, SUITE 200  
PIANO, TX 75074

## ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

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

The Patent Term Adjustment is 577 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site <http://pair.uspto.gov> for additional applicants):

David M. Smith, Plano, TX;

## PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** Mail Stop ISSUE FEE  
 Commissioner for Patents  
 P.O. Box 1450  
 Alexandria, Virginia 22313-1450  
 or **Fax** (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

28777 7590 09/22/2009

MICHAEL L. DIAZ, P.C.  
 555 REPUBLIC DRIVE, SUITE 200  
 PIANO, TX 75074

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.

Michael DIAZ	(Depositor's name)
Michael DIAZ	(Signature)
12-17-09	(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/289,179	11/29/2005	David M. Smith	5084-0008	7285

TITLE OF INVENTION: METHOD AND SYSTEM FOR COMBINING A CONVERSION BETWEEN TIME-DIVISION MULTIPLEXED DIGITAL SIGNALS AND PACKETIZED DIGITAL SIGNALS WITH A SWITCHING SYSTEM INTERFACE

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	\$755	\$300	\$0	\$1055	12/22/2009

EXAMINER	ART UNIT	CLASS-SUBCLASS
NGUYEN, QUYNH H	2614	379-244000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively,
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 Michael L. DIAZ  
 2  
 3

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

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

4a. The following fee(s) are submitted:

- ☒ Issue Fee
- ☒ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies \_\_\_\_\_

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☒ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number \_\_\_\_\_ (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).

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 Michael DIAZ

Typed or printed name Michael DIAZ

Date 12-17-09

Registration No. 40588

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.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

## Electronic Patent Application Fee Transmittal

<b>Application Number:</b>	11289179			
<b>Filing Date:</b>	29-Nov-2005			
<b>Title of Invention:</b>	METHOD AND SYSTEM FOR COMBINING A CONVERSION BETWEEN TIME-DIVISION MULTIPLEXED DIGITAL SIGNALS AND PACKETIZED DIGITAL SIGNALS WITH A SWITCHING SYSTEM INTERFACE			
<b>First Named Inventor/Applicant Name:</b>	David M. Smith			
<b>Filer:</b>	Michael Louis Diaz			
<b>Attorney Docket Number:</b>	5084-0008			
Filed as Small Entity				
<b>Utility under 35 USC 111(a) Filing Fees</b>				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
<b>Basic Filing:</b>				
<b>Pages:</b>				
<b>Claims:</b>				
<b>Miscellaneous-Filing:</b>				
<b>Petition:</b>				
<b>Patent-Appeals-and-Interference:</b>				
<b>Post-Allowance-and-Post-Issuance:</b>				
Utility Appl issue fee	2501	1	755	755
Publ. Fee- early, voluntary, or normal	1504	1	300	300

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				1055

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	6659627
<b>Application Number:</b>	11289179
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	7285
<b>Title of Invention:</b>	METHOD AND SYSTEM FOR COMBINING A CONVERSION BETWEEN TIME-DIVISION MULTIPLEXED DIGITAL SIGNALS AND PACKETIZED DIGITAL SIGNALS WITH A SWITCHING SYSTEM INTERFACE
<b>First Named Inventor/Applicant Name:</b>	David M. Smith
<b>Customer Number:</b>	28777
<b>Filer:</b>	Michael Louis Diaz
<b>Filer Authorized By:</b>	
<b>Attorney Docket Number:</b>	5084-0008
<b>Receipt Date:</b>	17-DEC-2009
<b>Filing Date:</b>	29-NOV-2005
<b>Time Stamp:</b>	15:40:35
<b>Application Type:</b>	Utility under 35 USC 111(a)

### Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$ 1055
RAM confirmation Number	2287
Deposit Account	
Authorized User	

### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
-----------------	----------------------	-----------	-------------------------------------	------------------	------------------

1	Issue Fee Payment (PTO-85B)	issuetrans.pdf	94818 ed18942466d6b30a3ad962f3852911d2dce7737f	no	1
<b>Warnings:</b>					
<b>Information:</b>					
2	Fee Worksheet (PTO-875)	fee-info.pdf	32150 f6848fdd072b223498c06f8b7645e5d5c15cfac9	no	2
<b>Warnings:</b>					
<b>Information:</b>					
<b>Total Files Size (in bytes):</b>			126968		
<p><b>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</b></p> <p><b><u>New Applications Under 35 U.S.C. 111</u></b>  <b>If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</b></p> <p><b><u>National Stage of an International Application under 35 U.S.C. 371</u></b>  <b>If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</b></p> <p><b><u>New International Application Filed with the USPTO as a Receiving Office</u></b>  <b>If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</b></p>					



# UNITED STATES PATENT AND TRADEMARK OFFICE

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

## NOTICE OF ALLOWANCE AND FEE(S) DUE

28777 7590 09/22/2009

MICHAEL L. DIAZ, P.C.  
555 REPUBLIC DRIVE, SUITE 200  
PIANO, TX 75074

EXAMINER

NGUYEN, QUYNH H

ART UNIT

PAPER NUMBER

2614

DATE MAILED: 09/22/2009

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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11/289,179

11/29/2005

David M. Smith

5084-0008

7285

TITLE OF INVENTION: METHOD AND SYSTEM FOR COMBINING A CONVERSION BETWEEN TIME-DIVISION MULTIPLEXED DIGITAL SIGNALS AND PACKETIZED DIGITAL SIGNALS WITH A SWITCHING SYSTEM INTERFACE

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	\$755	\$300	\$0	\$1055	12/22/2009

**THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.**

**THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.**

### HOW TO REPLY TO THIS NOTICE:

#### I. Review the 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, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.**

# **PART B - FEE(S) TRANSMITTAL**

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
or Fax (571)-273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

28777 7590 09/22/2009

MICHAEL L. DIAZ, P.C.  
555 REPUBLIC DRIVE, SUITE 200  
PIANO, TX 75074

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.
-----------------	-------------	----------------------	---------------------	------------------

11/289,179 11/29/2005 David M. Smith 5084-0008 7285

TITLE OF INVENTION: METHOD AND SYSTEM FOR COMBINING A CONVERSION BETWEEN TIME-DIVISION MULTIPLEXED DIGITAL SIGNALS AND PACKETIZED DIGITAL SIGNALS WITH A SWITCHING SYSTEM INTERFACE

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
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nonprovisional YES \$755 \$300 \$0 \$1055 12/22/2009

EXAMINER	ART UNIT	CLASS-SUBCLASS
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NGUYEN, QUYNH H 2614 379-244000

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 submitted:

- ☐ Issue Fee  
☐ Publication Fee (No small entity discount permitted)  
☐ Advance Order - # of Copies \_\_\_\_\_

4b. Payment of Fee(s); (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.  
☐ Payment by credit card. Form PTO-2038 is attached.  
☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number \_\_\_\_\_ (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).

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. \_\_\_\_\_

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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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/289,179	11/29/2005	David M. Smith	5084-0008	7285
28777	7590	09/22/2009	EXAMINER	
MICHAEL L. DIAZ, P.C. 555 REPUBLIC DRIVE, SUITE 200 PIANO, TX 75074			NGUYEN, QUYNH H	
			ART UNIT	PAPER NUMBER
			2614	
DATE MAILED: 09/22/2009				

## 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 577 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 577 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 1-(888)-786-0101 or (571)-272-4200.

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	11/289,179	SMITH, DAVID M.	
	<b>Examiner</b>	<b>Art Unit</b>	
	QUYNH H. NGUYEN	2614	

**-- 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 amendment filed 9/8/09.
2. ☒ The allowed claim(s) is/are 1-16.
3. ☐ 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.**

4. ☐ 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.
5. ☐ 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).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |  |
|--|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application                      |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date _____    | 7. <input type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material | 8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance              |
|  | 9. <input type="checkbox"/> Other _____.   |


/Quynh H Nguyen/  
Primary Examiner, Art Unit 2614



<b><i>Index of Claims</i></b>  	<b>Application/Control No.</b>  11289179	<b>Applicant(s)/Patent Under Reexamination</b>  SMITH, DAVID M.
	<b>Examiner</b>  QUYNH H NGUYEN	<b>Art Unit</b>  2614

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

<input checked="" type="checkbox"/> <b>Claims renumbered in the same order as presented by applicant</b>					<input type="checkbox"/> <b>CPA</b>					<input checked="" type="checkbox"/> <b>T.D.</b>					<input type="checkbox"/> <b>R.1.47</b>				
CLAIM		DATE																	
Final	Original	10/15/2008	06/03/2009	09/16/2009															
1	1	✓	✓	=															
2	2	✓	✓	=															
3	3	O	✓	=															
4	4	✓	✓	=															
5	5	O	✓	=															
6	6	✓	✓	=															
7	7	✓	✓	=															
8	8	✓	✓	=															
9	9	✓	✓	=															
10	10	✓	✓	=															
11	11	✓	✓	=															
12	12	✓	✓	=															
13	13	✓	✓	=															
14	14	✓	✓	=															
15	15	✓	✓	=															
16	16	✓	✓	=															

<b>Search Notes</b>  	<b>Application/Control No.</b>  11289179	<b>Applicant(s)/Patent Under Reexamination</b>  SMITH, DAVID M.
	<b>Examiner</b>  QUYNH H NGUYEN	<b>Art Unit</b>  2614

SEARCHED			
Class	Subclass	Date	Examiner
379	224, 9.05, 14, 14.01, 15.02, 15.03, 15.04, 112.02, 221.04, 279, 221.03	10/15/08	QN
	above updated	6/3/09	QN
	above updated	9/16/09	QN

SEARCH NOTES		
Search Notes	Date	Examiner
searched: East, USPGPUB, USPAT, EPO, JPO	10/15/08	QN
Inventor searched in PALM	10/15/08	QN

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner
379	224, 9/05, 14, 14.01, 15.02, 15.03, 15.04, 112.02, 221.04, 279, 221.03	9/16/09	QN
	interference search history printout	9/16/09	QN

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**EAST Search History****EAST Search History (I nterference)**

<b>Ref #</b>	<b>Hits</b>	<b>Search Query</b>	<b>DBs</b>	<b>Default Operator</b>	<b>Plurals</b>	<b>Time Stamp</b>
L1	1	(conver\$4 with (tdm (((time adj division) time-division) adj multiplex\$3)) with (packet\$3 near2 digital)).clm.	US-PGPUB	OR	ON	2009/09/16 23:30
L2	1	((conver\$4 with (tdm (((time adj division) time-division) adj multiplex\$3)) with (packet\$3 near2 digital)) and (pcm (pulse adj code adj modulation))).clm.	US-PGPUB	OR	ON	2009/09/16 23:31
L3	2	(bypass\$3 with (common near3 control) with (switch near2 5ess "class 5")).clm.	US-PGPUB	OR	ON	2009/09/16 23:32
L4	0	((conver\$4 with (tdm (((time adj division) time-division) adj multiplex\$3)) with (packet\$3 near2 digital)) and (line trunk)).clm.	US-PGPUB	OR	ON	2009/09/16 23:34

**9/ 16/ 09 11:35:13 PM**
**C:\ Documents and Settings\ qnguyen\ My Documents\ EAST\ Workspaces  
 \ 11289179.wsp**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant:	David Smith	§	Group Art Unit:	2614
		§		
Serial No:	11/289,179	§	Examiner:	Nguyen, Quynh
		§		
Filed:	December 29, 2005	§	Confirmation No:	7285
		§		

Attorney Docket No: 5084-0008  
Customer No.: 28777

For: METHOD AND SYSTEM FOR COMBINING A CONVERSION BETWEEN TIME-DIVISION MULTIPLEXED DIGITAL SIGNALS AND PACKETIZED DIGITAL SIGNALS WITH A SWITCHING SYSTEM INTERFACE

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**CERTIFICATE OF MAILING OR TRANSMISSION**

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage for First class or Express mail in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, or being facsimile transmitted to the USPTO at (571) 273-8300, or electronically via EFS-Web on the date indicated below.

Date: September 8, 2009

Name: Michael L. Diaz

Signature: /michaeldiaz/

Dear Examiner:

**Amendment**

In response to the office action, the Applicant submits the following remarks and/or amendments.

- 1.) Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.
- 3.) Remarks/Arguments begin on page 8 of this paper.

**TERMINAL DISCLAIMER TO OBVIATE A DOUBLE PATENTING  
REJECTION OVER A "PRIOR" PATENT**

Docket Number (Optional)

5084-0008

In re Application of: David M. Smith

Application No.: 11/289,179

Filed: 11/29/2005

For: METHOD AND SYSTEM FOR COMBINING A CONVERSION BETWEEN TIME-DIVISION MULTIPLEXED DIGITAL SIGNALS AND  
PACKETIZED DIGITAL SIGNALS WITH A SWITCHING SYSTEM INTERFACE

The owner\*, David M. Smith, of 100 percent interest in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term **prior patent** No. 7319747 as the term of said prior patent is defined in 35 U.S.C. 154 and 173, and as the term of said **prior patent** is presently shortened by any terminal disclaimer. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the **prior patent** are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

In making the above disclaimer, the owner does not disclaim the terminal part of the term of any patent granted on the instant application that would extend to the expiration date of the full statutory term as defined in 35 U.S.C. 154 and 173 of the **prior patent**, "as the term of said **prior patent** is presently shortened by any terminal disclaimer," in the event that said **prior patent** later:

- expires for failure to pay a maintenance fee;
- is held unenforceable;
- is found invalid by a court of competent jurisdiction;
- is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321;
- has all claims canceled by a reexamination certificate;
- is reissued; or
- is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer.

Check either box 1 or 2 below, if appropriate.

1. ☐ For submissions on behalf of a business/organization (e.g., corporation, partnership, university, government agency, etc.), the undersigned is empowered to act on behalf of the business/organization.

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.

2. ☒ The undersigned is an attorney or agent of record. Reg. No. 40588

/michaeldiaz/

Signature

9-08-09

Date

Michael Diaz

Typed or printed name

972-578-5669

Telephone Number

- ☒ Terminal disclaimer fee under 37 CFR 1.20(d) included.

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

\*Statement under 37 CFR 3.73(b) is required if terminal disclaimer is signed by the assignee (owner).  
Form PTO/SB/96 may be used for making this certification. See MPEP § 324.

This collection of information is required by 37 CFR 1.321. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 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.**

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

## Privacy Act Statement

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

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

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

## Electronic Patent Application Fee Transmittal

<b>Application Number:</b>	11289179			
<b>Filing Date:</b>	29-Nov-2005			
<b>Title of Invention:</b>	Method and system for combining a conversion between time-division multiplexed digital signals and packetized digital signals with a switching system interface			
<b>First Named Inventor/Applicant Name:</b>	David M. Smith			
<b>Filer:</b>	Michael Louis Diaz			
<b>Attorney Docket Number:</b>	5084-0008			
Filed as Small Entity				
<b>Utility under 35 USC 111(a) Filing Fees</b>				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
<b>Basic Filing:</b>				
<b>Pages:</b>				
<b>Claims:</b>				
<b>Miscellaneous-Filing:</b>				
<b>Petition:</b>				
<b>Patent-Appeals-and-Interference:</b>				
<b>Post-Allowance-and-Post-Issuance:</b>				
<b>Extension-of-Time:</b>				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
<b>Miscellaneous:</b>				
Statutory disclaimer	2814	1	70	70
<b>Total in USD (\$)</b>				<b>70</b>

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	6083286
<b>Application Number:</b>	11289179
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	7285
<b>Title of Invention:</b>	Method and system for combining a conversion between time-division multiplexed digital signals and packetized digital signals with a switching system interface
<b>First Named Inventor/Applicant Name:</b>	David M. Smith
<b>Customer Number:</b>	28777
<b>Filer:</b>	Michael Louis Diaz
<b>Filer Authorized By:</b>	
<b>Attorney Docket Number:</b>	5084-0008
<b>Receipt Date:</b>	16-SEP-2009
<b>Filing Date:</b>	29-NOV-2005
<b>Time Stamp:</b>	14:16:54
<b>Application Type:</b>	Utility under 35 USC 111(a)


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Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
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1	Terminal Disclaimer Filed	sb0026no2.pdf	213344 d317346895f4a82f8d2b10c2c356406d1e428ea1	no	2
<b>Warnings:</b>					
<b>Information:</b>					
2	Fee Worksheet (PTO-875)	fee-info.pdf	29768 0ca045373fd701606225bf59aac99f4cee2b7ba4	no	2
<b>Warnings:</b>					
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<b>Application Number</b> 	<b>Application/Control No.</b> 11/289,179	<b>Applicant(s)/Patent under Reexamination</b> SMITH, DAVID M.	
<b>Document Code - DISQ</b>		<b>Internal Document – DO NOT MAIL</b>	

<b>TERMINAL DISCLAIMER</b>	<input type="checkbox"/> APPROVED	<input checked="" type="checkbox"/> DISAPPROVED
Date Filed : 9/8/09	This patent is subject to a Terminal Disclaimer	

<b>Approved/Disapproved by:</b>
Janice Ford  there's no authorization information to charge fee for patent reference pending no 7319747

U.S. Patent and Trademark Office

<b>Application Number</b> 	<b>Application/Control No.</b> 11/289,179	<b>Applicant(s)/Patent under Reexamination</b> SMITH, DAVID M.	
<b>Document Code - DISQ</b>		<b>Internal Document – DO NOT MAIL</b>	

<b>TERMINAL DISCLAIMER</b>	<input checked="" type="checkbox"/> <b>APPROVED</b>	<input type="checkbox"/> <b>DISAPPROVED</b>
<b>Date Filed : 9/8/09</b>	<b>This patent is subject to a Terminal Disclaimer</b>	

<b>Approved/Disapproved by:</b>
Janice Ford  terminal approved for reference pending application no. 6807273

U.S. Patent and Trademark Office

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant:	David Smith	§	Group Art Unit:	2614
		§		
Serial No:	11/289,179	§	Examiner:	Nguyen, Quynh
		§		
Filed:	December 29, 2005	§	Confirmation No:	7285
		§		

Attorney Docket No: 5084-0008  
Customer No.: 28777

For: METHOD AND SYSTEM FOR COMBINING A CONVERSION BETWEEN TIME-DIVISION MULTIPLEXED DIGITAL SIGNALS AND PACKETIZED DIGITAL SIGNALS WITH A SWITCHING SYSTEM INTERFACE

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
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Date: September 8, 2009

Name: Michael L. Diaz

Signature: /michaeldiaz/

Dear Examiner:

**Amendment**

In response to the office action, the Applicant submits the following remarks and/or amendments.

- 1.) Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.
- 3.) Remarks/Arguments begin on page 8 of this paper.

### **Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

### **Listing of Claims:**

1. (Previously Amended) A switching system converter providing conversion between time-division multiplexed digital signals and packetized digital signals used to bypass a common control and switch matrix of a class 5 digital switch, the switching system converter comprising:

a switching system interface having means for bypassing a common control and switch matrix of a class 5 digital switch, the switching system interface having:

at least one network interface for terminating a digital transmission facility that is part of a network architecture;

at least one line/trunk interface, compatible with internal signals used to operate the line/trunk interface of the class 5 digital switching system; and

a switching means, connected to the network interface and to the line/trunk interface, for routing data between the network interfaces and the line/trunk interface; and

means for converting the data between time-division multiplexed digital signals of a legacy line frame of a legacy line and packetized digital signals utilizing pulse code modulation (PCM) data transport.

2. (Original) The switching system converter of claim 1 wherein the packetized PCM data transport is Internet Protocol (IP).

3. (Original) The switching system converter of claim 1 further comprising:  
means for converting a proprietary representation of a legacy line state of the legacy line into a message sent to an external controlling device; and

means for receiving and interpreting the message from the external controlling device to apply legacy line supervision;

whereby the external controlling device provides a capability for making and receiving telephonic calls over a packet network.

4. (Original) The switching system converter of claim 3 further comprising:  
means for generating call progress aural tones applied to the legacy line under the control of a message from the external controlling device;  
means for collecting DTMF tones or dial pulses from the legacy line;  
means for interpreting the tones or pulses as digits; and  
means for sending the digital information as a message to the external controlling device;

whereby the external controlling device controls calls without direct access to the PCM data.

5. (Original) The switching system converter of claim 1 further comprising:  
means for converting a proprietary representation of a legacy line state of the legacy line into a message sent to a packet network-based device; and  
means for receiving and interpreting the message from the packet network-based device to apply legacy line supervision, the packet network-based device providing a capability for making and receiving telephonic calls over a packet network whereby calls are set up, routed, and torn down over a local area network (LAN) or the Internet.

6. (Original) The switching system converter of claim 5 further comprising a registry means allowing a network-based device to register an identity, an address or other characteristic of the network-based device with the switching system interface.

7. (Currently Amended) A switching system interface providing conversion between time-division multiplexed digital signals and packetized digital signals used to bypass a common control and switch matrix of a class 5 digital switch, the switching system interface comprising:

a switching system interface having means for bypassing a common control and switch matrix of a class 5 digital switch;

at least one network interface for terminating a digital transmission facility that is part of a packet-network architecture;

at least one line/trunk interface, compatible with internal signals used to operate a line/trunk frame of the class 5 digital switching system;

a switching means, connected to the network interface and to the line/trunk interface, for routing data between the network interfaces and the line/trunk interface; and

means for converting data between time-division multiplexed digital signals and packetized digital signals.

8. (Original) The switching system interface of claim 7 wherein the means for converting data between time-division multiplexed digital signals and packetized digital signals includes utilizing a digital signal processor.

9. (Original) The switching system interface of claim 7 further comprising:

one or more digital signal processing means, connected to the switching means, for capturing telephone numbers dialed by subscribers connected to the line/trunk interface;

a memory for storing a list of telephone numbers;

a means for comparing the captured telephone numbers against the stored list of telephone numbers;

one or more data-oriented network interfaces connected to the switching means;

whereby the switching system interface will identify dial-up internet calls placed by the subscribers to known internet service providers and divert the dial-up internet calls to the data-oriented network interfaces and prevent the dial-up internet calls from reaching the terminal of the network architecture and the terminal is relieved of the dial-up internet calls.

10. (Currently Amended) A method of combining time-division multiplexed digital signals and packetized digital signals with a switching system interface used to bypass the common control and switch matrix of a legacy class 5 digital switch, the method comprising the steps of:

utilizing a switching system interface to bypass a common control and switch matrix of the digital class 5 switch;

accessing internal signals of the class 5 digital switching system used to control line and trunk interfaces of the class 5 digital switching system and convey data in and out of the line and trunk interfaces;

providing a switching system interface comprising at least one network interface connected to at least one digital transmission facility that is part of a network architecture, and comprising interfaces compatible with the internal signals; and

connecting the compatible interfaces of the switching system interface to the internal signals of the class 5 digital switching system, the connection between the compatible interfaces and the internal signals enabling a terminal in the network architecture to directly operate the internal signals to provide telecommunications service to subscribers connected to the line and trunk interfaces without the use of the common-control-and switch matrix of the class 5 digital switching system; and

converting time-division multiplexed digital signals to packetized digital signals through the switching system interface.

11. (Original) The method of combining time-division multiplexed digital signals and packetized digital signals of claim 10 further comprising the steps of:

identifying dial-up internet calls dialed by subscribers connected to the line and trunk interfaces; and

diverting identified dial-up internet calls to a facility for handling internet traffic separate from the terminal.

12. (Original) The method of combining time-division multiplexed digital signals and packetized digital signals of claim 11 wherein the step of identifying dial-up internet calls includes:

providing a means within the switching system interface for capturing telephone numbers dialed by subscribers connected to the line and trunk interfaces;

providing a memory for storing within the switching system interface a list of telephone numbers of known internet service providers; and

providing a means within the switching system interface for comparing the telephone numbers dialed by the subscribers against the list in order to identify dial-up internet calls.

13. (Original) The method of combining time-division multiplexed digital signals and packetized digital signals of claim 10 further comprising the steps of connecting a digital signal processor within the telecommunications network to the second connection to enable the media gateway to communicate with the internal signals.

14. (Original) The method of combining time-division multiplexed digital signals and packetized digital signals of claim 10 wherein the step of converting time-division multiplex digital signals to packetized digital signals includes:

receiving signals originating from a line trunk frame;

extracting Pulse Code Modulation (PCM) data and signal information from these signals;

transmitting the PCM data on a timeslot;

packetizing the PCM data; and

transmitting the packetized data to an external IP address.

15. (Previously Presented) An emergency switching system with a switching system interface providing conversion between time-division multiplexed digital signals and packetized digital signals used to bypass a common control and switch matrix of a class 5 digital switch, the emergency switching system comprising:

a switching system interface used to bypass a common control and switch matrix of a digital switch;

an emergency standalone switch for controlling call control functions, the emergency standalone switch computed to the switching system interface; and

means for routing a call from a first subscriber line to a second subscriber line through the emergency standalone switch;

means for converting time-division multiplexed digital signals and packetized digital signals;

whereby the emergency switching system provides emergency or local call service to a localized area previously serviced by the digital switch.

16. (Original) The emergency switching system of claim 15 further comprising a database storing a plurality of directory numbers of subscribers located within the localized area, the database providing directory numbers for call control by the emergency standalone switch for providing local or emergency call service to a subscriber serviced by the class 5 digital switch.

## **REMARKS/ARGUMENTS**

### **Claim Amendments**

The Applicant has amended claims 7 and 10. Applicant respectfully submits no new matter has been added. Accordingly, claims 1-16 are pending in the application. Favorable reconsideration of the application is respectfully requested in view of the foregoing amendments and the following remarks.

### **Claim Rejections – 35 U.S.C. § 112**

Claims 7 and its dependent claims 8-9, and 10 and its dependent claims 11-14 stand rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. Specifically, the Examiner stated that the limitation “a switching system interface having means for bypassing a common control and switch matrix of a class 5 digital switch” is essential to the invention but is not included in the body of the independent claims. In response, the Applicant has amended claims 7 and 10 to recite this limitation. Therefore, the allowance of claims 7-14 is respectfully requested.

### **Double Patenting**

Claims 1-16 stand rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-28 of U.S. patent No. 6,807,273. The Applicant has filed herewith, a terminal disclaimer. Therefore, the allowance of claims 1-16 is respectfully requested.

Claims 1-16 stand rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-21 of U.S. patent No. 7,319,747. The Applicant has filed herewith, a terminal disclaimer. Therefore, the allowance of claims 1-16 is respectfully requested.

### **CONCLUSION**

In view of the foregoing remarks, the Applicant believes all of the claims currently pending in the Application to be in a condition for allowance. The Applicant, therefore, respectfully requests that the Examiner withdraw all rejections and issue a Notice of Allowance for all pending claims.

The Applicant requests a telephonic interview if the Examiner has any questions or requires any additional information that would further or expedite the prosecution of the Application.

Respectfully submitted,

/michaeldiaz/

By Michael L. Diaz  
Registration No. 40,588

Date: September 8, 2009

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Plano, Texas 75074  
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**TERMINAL DISCLAIMER TO OBVIATE A DOUBLE PATENTING  
REJECTION OVER A "PRIOR" PATENT**Docket Number (Optional)  
5084-0008

In re Application of: David M. Smith

Application No.: 11/289,179

Filed: 11/29/2005

For: METHOD AND SYSTEM FOR COMBINING A CONVERSION BETWEEN TIME-DIVISION MULTIPLEXED DIGITAL SIGNALS AND  
PACKETIZED DIGITAL SIGNALS WITH A SWITCHING SYSTEM INTERFACE

The owner\*, David M. Smith, of 100 percent interest in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term **prior patent** No. 6807273 as the term of said prior patent is defined in 35 U.S.C. 154 and 173, and as the term of said **prior patent** is presently shortened by any terminal disclaimer. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the **prior patent** are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

In making the above disclaimer, the owner does not disclaim the terminal part of the term of any patent granted on the instant application that would extend to the expiration date of the full statutory term as defined in 35 U.S.C. 154 and 173 of the **prior patent**, "as the term of said **prior patent** is presently shortened by any terminal disclaimer," in the event that said **prior patent** later:

- expires for failure to pay a maintenance fee;
- is held unenforceable;
- is found invalid by a court of competent jurisdiction;
- is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321;
- has all claims canceled by a reexamination certificate;
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- is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer.

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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.

2. ☒ The undersigned is an attorney or agent of record. Reg. No. 40588

/michaeldiaz/

Signature

9-08-09

Date

Michael Diaz

Typed or printed name

972-578-5669

Telephone Number

- ☒ Terminal disclaimer fee under 37 CFR 1.20(d) included.

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5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
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Docket Number (Optional)

5084-0008

In re Application of: David M. Smith

Application No.: 11/289,179

Filed: 11/29/2005

For: METHOD AND SYSTEM FOR COMBINING A CONVERSION BETWEEN TIME-DIVISION MULTIPLEXED DIGITAL SIGNALS AND  
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The owner\*, David M. Smith, of 100 percent interest in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term **prior patent** No. 7319747 as the term of said prior patent is defined in 35 U.S.C. 154 and 173, and as the term of said **prior patent** is presently shortened by any terminal disclaimer. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the **prior patent** are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

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- has all claims canceled by a reexamination certificate;
- is reissued; or
- is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer.

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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.

2. ☒ The undersigned is an attorney or agent of record. Reg. No. 40588

/michaeldiaz/

Signature

9-08-09

Date

Michael Diaz

Typed or printed name

972-578-5669

Telephone Number

- ☒ Terminal disclaimer fee under 37 CFR 1.20(d) included.

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

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

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Patent Application Fee Transmittal				
Application Number:		11289179		
Filing Date:		29-Nov-2005		
Title of Invention:		Method and system for combining a conversion between time-division multiplexed digital signals and packetized digital signals with a switching system interface		
First Named Inventor/Applicant Name:		David M. Smith		
Filer:		Michael Louis Diaz		
Attorney Docket Number:		5084-0008		
Filed as Small Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Statutory disclaimer	2814	1	70	70
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Total in USD (\$)				70

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	6029473
<b>Application Number:</b>	11289179
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	7285
<b>Title of Invention:</b>	Method and system for combining a conversion between time-division multiplexed digital signals and packetized digital signals with a switching system interface
<b>First Named Inventor/Applicant Name:</b>	David M. Smith
<b>Customer Number:</b>	28777
<b>Filer:</b>	Michael Louis Diaz
<b>Filer Authorized By:</b>	
<b>Attorney Docket Number:</b>	5084-0008
<b>Receipt Date:</b>	08-SEP-2009
<b>Filing Date:</b>	29-NOV-2005
<b>Time Stamp:</b>	15:57:33
<b>Application Type:</b>	Utility under 35 USC 111(a)

### Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$70
RAM confirmation Number	2293
Deposit Account	
Authorized User	

### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
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1		amendment2.pdf	37734	yes	9
			8c3b6d947715f066bcd1bdfc85632a093ebf815f		
	Multipart Description/PDF files in .zip description				
	Document Description	Start	End		
	Amendment After Final	1	1		
	Claims	2	7		
	Applicant Arguments/Remarks Made in an Amendment	8	9		
Warnings:					
Information:					
2	Terminal Disclaimer Filed	sb0026.pdf	213413	no	2
			f72e69d1c0d83ddb4805720b38e7891fc7d4fed9		
Warnings:					
Information:					
3	Terminal Disclaimer Filed	sb0026no2.pdf	213344	no	2
			d317346895f4a82f8d2b10c2c356406d1e428ea1		
Warnings:					
Information:					
4	Fee Worksheet (PTO-875)	fee-info.pdf	29785	no	2
			7b3e757b20584d744292e67f7cdf9cbfd83f1336		
Warnings:					
Information:					
Total Files Size (in bytes):			494276		

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

**New Applications Under 35 U.S.C. 111**

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

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

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

**New International Application Filed with the USPTO as a Receiving Office**

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


Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

<b>PATENT APPLICATION FEE DETERMINATION RECORD</b> Substitute for Form PTO-875					Application or Docket Number <b>11/289,179</b>		Filing Date <b>11/29/2005</b>		<input type="checkbox"/> To be Mailed	
<b>APPLICATION AS FILED – PART I</b>										
(Column 1)			(Column 2)		SMALL ENTITY <input checked="" type="checkbox"/> OR			OTHER THAN SMALL ENTITY		
FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)	OR	RATE (\$)	FEE (\$)			
<input type="checkbox"/> BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A				
<input type="checkbox"/> SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A			N/A				
<input type="checkbox"/> EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A				
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X \$	=		X \$	=			
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$	=		X \$	=			
<input type="checkbox"/> APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).									
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))										
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL				
<b>APPLICATION AS AMENDED – PART II</b>										
(Column 1)			(Column 2)		SMALL ENTITY OR			OTHER THAN SMALL ENTITY		
<b>AMENDMENT</b>	<b>09/08/2009</b>	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	OR	RATE (\$)	ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))	* 16	Minus	** 20	= 0	X \$26 =	0	OR	X \$ =	
	Independent (37 CFR 1.16(h))	* 4	Minus	***4	= 0	X \$110 =	0	OR	X \$ =	
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))									
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))									
					TOTAL ADD'L FEE	0	OR	TOTAL ADD'L FEE		
<b>AMENDMENT</b>	Total (37 CFR 1.16(i))	*	Minus	**	=	X \$ =		OR	X \$ =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$ =		OR	X \$ =	
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))									
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))									
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE		
<p>* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.</p> <p>** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".</p> <p>*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".</p> <p>The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.</p>										

Legal Instrument Examiner:  
/KAREN VESTAL/


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.**

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

<b><i>Index of Claims</i></b>  	<b>Application/Control No.</b>  11289179	<b>Applicant(s)/Patent Under Reexamination</b>  SMITH, DAVID M.
	<b>Examiner</b>  QUYNH H NGUYEN	<b>Art Unit</b>  2614

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

<input 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	
CLAIM		DATE							
Final	Original	10/15/2008	06/03/2009						
	1	✓	✓						
	2	✓	✓						
	3	O	✓						
	4	✓	✓						
	5	O	✓						
	6	✓	✓						
	7	✓	✓						
	8	✓	✓						
	9	✓	✓						
	10	✓	✓						
	11	✓	✓						
	12	✓	✓						
	13	✓	✓						
	14	✓	✓						
	15	✓	✓						
	16	✓	✓						

<b>Search Notes</b>  	<b>Application/Control No.</b>  11289179	<b>Applicant(s)/Patent Under Reexamination</b>  SMITH, DAVID M.
	<b>Examiner</b>  QUYNH H NGUYEN	<b>Art Unit</b>  2614

SEARCHED			
Class	Subclass	Date	Examiner
379	224, 9.05, 14, 14.01, 15.02, 15.03, 15.04, 112.02, 221.04, 279, 221.03	10/15/08	QN
	above updated	6/3/09	QN

SEARCH NOTES		
Search Notes	Date	Examiner
searched: East, USPGPUB, USPAT, EPO, JPO	10/15/08	QN
Inventor searched in PALM	10/15/08	QN

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

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# UNITED STATES PATENT AND TRADEMARK OFFICE

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www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

11/289,179

11/29/2005

David M. Smith

5084-0008

7285

28777 7590 06/08/2009  
MICHAEL L. DIAZ, P.C.  
555 REPUBLIC DRIVE, SUITE 200  
PIANO, TX 75074

EXAMINER

NGUYEN, QUYNH H

ART UNIT

PAPER NUMBER

2614

MAIL DATE

DELIVERY MODE

06/08/2009

PAPER

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

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

<b>Office Action Summary</b>	<b>Application No.</b> 11/289,179	<b>Applicant(s)</b> SMITH, DAVID M.	
	<b>Examiner</b> QUYNH H. NGUYEN	<b>Art Unit</b> 2614	

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

### Period for Reply

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

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

### Status

- 1) ☒ Responsive to communication(s) filed on amendment filed 3/30/09.
- 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) 1-16 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) 1-16 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 \_\_\_\_\_ 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 type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

Art Unit: 2614

### **DETAILED ACTION**

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 7 and its dependent claims 8-9, and 10 and its dependent claims 11-14 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. Limitation "a switching system interface having means for bypassing a common control and switch matrix of a class 5 digital switch" is critical or essential to the practice of the invention, but not included in the body of the independent claims. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976).

### ***Double Patenting***

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double

Art Unit: 2614

patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

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

5. Claims 1-16 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-28 of U.S. Patent No. 6,807,273.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the present application are broader in scope than the claims of the patent. Omission of an element and its function in a combination is an obvious expedient if the remaining elements perform the same functions as before. In re KARLSON (CCPA) 136 USPA 184 (1963).

6. Claims 1-16 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-21 of U.S. Patent No. 7,319,747.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the present application are broader in scope than the claims of the patent. Omission of an element and its function in a combination is an obvious expedient if the remaining elements perform the same functions as before. In re KARLSON (CCPA) 136 USPA 184 (1963).

#### ***Allowable Subject Matter***

7. Claims 7 and 10 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 1st paragraph, set forth in this Office action.

### ***Response to Arguments***

8. Applicant's arguments with respect to claims 1-6 and 15-16 have been fully considered but they are persuasive. For claims 7-14, please see the above 112 rejections.

Applicant's amendment necessitated the new ground(s) of double patenting rejections.

### ***Conclusion***

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

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

Art Unit: 2614

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to QUYNH H. NGUYEN whose telephone number is 571-272-7489. The examiner can normally be reached on Monday - Thursday from 6:30 A.M. to 5:00 P.M. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ahmad Matar, can be reached on 571-272-7488. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Quynh H Nguyen/  
Primary Examiner, Art Unit 2614

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant:	David Smith	§	Group Art Unit:	2614
		§		
Serial No:	11/289,179	§	Examiner:	Nguyen, Quynh
		§		
Filed:	December 29, 2005	§	Confirmation No:	7285
		§		

Attorney Docket No: 5084-0008  
Customer No.: 28777

For: METHOD AND SYSTEM FOR COMBINING A CONVERSION BETWEEN TIME-DIVISION MULTIPLEXED DIGITAL SIGNALS AND PACKETIZED DIGITAL SIGNALS WITH A SWITCHING SYSTEM INTERFACE

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**CERTIFICATE OF MAILING OR TRANSMISSION**

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage for First class or Express mail in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, or being facsimile transmitted to the USPTO at (571) 273-8300, or electronically via EFS-Web on the date indicated below.

Date: March 30, 2009

Name: Michael L. Diaz

Signature: /michaeldiaz/

Dear Examiner:

**Amendment**

In response to the office action, the Applicant submits the following remarks and/or amendments.

- 1.) Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.
- 3.) Remarks/Arguments begin on page 8 of this paper.

### **Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

### **Listing of Claims:**

1. (Currently Amended) A switching system converter providing conversion between time-division multiplexed digital signals and packetized digital signals used to bypass a common control and switch matrix of a class 5 digital switch, the switching system converter comprising:

a switching system interface having means for bypassing a common control and switch matrix of a class 5 digital switch, the switching system interface having; ~~and~~

at least one network interface for terminating a digital transmission facility that is part of a network architecture;

at least one line/trunk interface, compatible with internal signals used to operate the line/trunk interface of the class 5 digital switching system; and

a switching means, connected to the network interface and to the line/trunk interface, for routing data between the network interfaces and the line/trunk interface; and

means for converting the data between time-division multiplexed digital signals of a legacy line frame of a legacy line and packetized digital signals utilizing pulse code modulation (PCM) data transport.

2. (Original) The switching system converter of claim 1 wherein the packetized PCM data transport is Internet Protocol (IP).

3. (Original) The switching system converter of claim 1 further comprising:  
means for converting a proprietary representation of a legacy line state of the legacy line into a message sent to an external controlling device; and

means for receiving and interpreting the message from the external controlling device to apply legacy line supervision;

whereby the external controlling device provides a capability for making and receiving telephonic calls over a packet network.

4. (Original) The switching system converter of claim 3 further comprising:  
means for generating call progress aural tones applied to the legacy line under the control of a message from the external controlling device;  
means for collecting DTMF tones or dial pulses from the legacy line;  
means for interpreting the tones or pulses as digits; and  
means for sending the digital information as a message to the external controlling device;

whereby the external controlling device controls calls without direct access to the PCM data.

5. (Original) The switching system converter of claim 1 further comprising:  
means for converting a proprietary representation of a legacy line state of the legacy line into a message sent to a packet network-based device; and  
means for receiving and interpreting the message from the packet network-based device to apply legacy line supervision, the packet network-based device providing a capability for making and receiving telephonic calls over a packet network whereby calls are set up, routed, and torn down over a local area network (LAN) or the Internet.

6. (Original) The switching system converter of claim 5 further comprising a registry means allowing a network-based device to register an identity, an address or other characteristic of the network-based device with the switching system interface.

7. (Currently Amended) A switching system interface providing conversion between time-division multiplexed digital signals and packetized digital signals used to bypass a common control and switch matrix of a class 5 digital switch, the switching system interface comprising:

at least one network interface for terminating a digital transmission facility that is part of a packet-network architecture;

at least one line/trunk interface, compatible with the internal signals used to operate a line/trunk frame of the class 5 digital switching system;

a switching means, connected to the network interface and to the line/trunk interface, for routing data between the network interfaces and the line/trunk interface;  
and

means for converting the data between time-division multiplexed digital signals and packetized digital signals.

8. (Original) The switching system interface of claim 7 wherein the means for converting data between time-division multiplexed digital signals and packetized digital signals includes utilizing a digital signal processor.

9. (Original) The switching system interface of claim 7 further comprising:  
one or more digital signal processing means, connected to the switching means, for capturing telephone numbers dialed by subscribers connected to the line/trunk interface;

a memory for storing a list of telephone numbers;

a means for comparing the captured telephone numbers against the stored list of telephone numbers;

one or more data-oriented network interfaces connected to the switching means;

whereby the switching system interface will identify dial-up internet calls placed by the subscribers to known internet service providers and divert the dial-up internet calls to the data-oriented network interfaces and prevent the dial-up internet calls from reaching the terminal of the network architecture and the terminal is relieved of the dial-up internet calls.

10. (Currently Amended) A method of combining time-division multiplexed digital signals and packetized digital signals with a switching system interface used to

bypass the common control and switch matrix of a legacy class 5 digital switch, the method comprising the steps of:

~~accessing a first connection providing internal signals used to control line and trunk interfaces of the first digital switching system and convey data in and out of the line and trunk interfaces;~~

~~applying a switching system interface, which is compatible with the first connection providing internal signals, to the first connection, the switching system interface bypassing at least a portion of the common control and switch matrix and being compatible with a digital transmission facility within the telecommunications network; and~~

accessing internal signals of the class 5 digital switching system used to control line and trunk interfaces of the class 5 digital switching system and convey data in and out of the line and trunk interfaces;

providing a switching system interface comprising at least one network interface connected to at least one digital transmission facility that is part of a network architecture, and comprising interfaces compatible with the internal signals; and

connecting the compatible interfaces of the switching system interface to the internal signals of the class 5 digital switching system, the connection between the compatible interfaces and the internal signals enabling a terminal in the network architecture to directly operate the internal signals to provide telecommunications service to subscribers connected to the line and trunk interfaces without the use of the common-control-and switch matrix of the class 5 digital switching system; and

converting time-division multiplexed digital signals to packetized digital signals through the switching system interface.

11. (Original) The method of combining time-division multiplexed digital signals and packetized digital signals of claim 10 further comprising the steps of:

identifying dial-up internet calls dialed by subscribers connected to the line and trunk interfaces; and

diverting identified dial-up internet calls to a facility for handling internet traffic separate from the terminal.

12. (Original) The method of combining time-division multiplexed digital signals and packetized digital signals of claim 11 wherein the step of identifying dial-up internet calls includes:

providing a means within the switching system interface for capturing telephone numbers dialed by subscribers connected to the line and trunk interfaces;

providing a memory for storing within the switching system interface a list of telephone numbers of known internet service providers; and

providing a means within the switching system interface for comparing the telephone numbers dialed by the subscribers against the list in order to identify dial-up internet calls.

13. (Original) The method of combining time-division multiplexed digital signals and packetized digital signals of claim 10 further comprising the steps of connecting a digital signal processor within the telecommunications network to the second connection to enable the media gateway to communicate with the internal signals.

14. (Original) The method of combining time-division multiplexed digital signals and packetized digital signals of claim 10 wherein the step of converting time-division multiplex digital signals to packetized digital signals includes:

receiving signals originating from a line trunk frame;

extracting Pulse Code Modulation (PCM) data and signal information from these signals;

transmitting the PCM data on a timeslot;

packetizing the PCM data; and

transmitting the packetized data to an external IP address.

15. (Currently Amended) An emergency switching system with a switching system interface providing conversion between time-division multiplexed digital signals

and packetized digital signals used to bypass a common control and switch matrix of a class 5 digital switch, the emergency switching system comprising:

a switching system interface used to bypass a common control and switch matrix of a digital switch;

an emergency standalone switch for controlling call control functions, the emergency standalone switch computed to the switching system interface; and

means for routing a call from a first subscriber line to a second subscriber line through the emergency standalone switch;

means for converting time-division multiplexed digital signals and packetized digital signals;

whereby the emergency switching system provides emergency or local call service to a localized area previously serviced by the digital switch.

16. (Original) The emergency switching system of claim 15 further comprising a database storing a plurality of directory numbers of subscribers located within the localized area, the database providing directory numbers for call control by the emergency standalone switch for providing local or emergency call service to a subscriber serviced by the class 5 digital switch.

## **REMARKS/ARGUMENTS**

### **Claim Amendments**

The Applicant has amended claims 1, 7, 10, and 15. Applicant respectfully submits no new matter has been added. Accordingly, claims 1-16 are pending in the application. Favorable reconsideration of the application is respectfully requested in view of the foregoing amendments and the following remarks.

### **Claim Rejections – 35 U.S.C. § 101**

Claims 1-16 stand rejected under 35 U.S.C. 101 as being claims which fall outside of allowable statutory categories. In response, the Applicant has amended independent claims 1, 7, 10 and 15 to overcome the rejection. Therefore, the allowance of claims 1-16 is respectfully requested.

### **Claim Rejections – 35 U.S.C. § 112**

Claims 1 and 7 stand rejected under 35 U.S.C. 112 for lacking antecedent in the limitations of the claims. The Applicant has amended the claims to overcome the rejection. The allowance of claims 1 and 7 is respectfully requested.

### **Claim Rejections – 35 U.S.C. § 103(a)**

Claims 1-2 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Czerwiec (US 5,903,372), hereinafter referred to as Czerwiec in view of Anderson et al. (US 6,064,673), hereinafter referred to as Anderson. The Applicant has amended independent claim 1 to more clearly define the intended scope of the claimed invention and distinguish the present invention from Czerwiec and Anderson. The Examiner's consideration of the amended claims is respectfully requested.

Independent claim 1 has been amended and now recites that the switching system interface includes at least one network interface for terminating a digital transmission facility that is part of a network architecture, at least one line/trunk interface, compatible with internal signals used to operate the line/trunk interface of the class 5 digital switching system, and a switching means, connected to the network

interface and to the line/trunk interface, for routing data between the network interfaces and the line/trunk interface. No new matter has been added.

Neither Czerwiec nor Anderson teach or suggest the newly added limitations. Claim 2 depends from claim 1 and recites further limitations in combination with the novel elements of claim 1. Therefore, the allowance of claims 1 and 2 is respectfully requested.

Claims 7 and 8 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Forte (US 2002/0128023), hereinafter referred to as Forte in view of Anderson and further in view of Lakhani et al. (US 2004/0081174), hereinafter referred to as Lakhani. The Applicant has amended independent claim 7 to more clearly define the intended scope of the claimed invention and distinguish the present invention from the cited references. The Examiner's consideration of the amended claims is respectfully requested.

Independent claim 7 has been amended and now recites a switching means, connected to the network interface and to the line/trunk interface, for routing data between the network interfaces and the line/trunk interface. No new matter has been added.

The combination of Forte, Anderson and Lakhani do teach or suggest the newly added limitations. Claim 8 depends from claim 7 and recites further limitations in combination with the novel elements of claim 7. Therefore, the allowance of claims 7 and 8 is respectfully requested.

Claim 9 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Forte, Anderson, Lakhani and further in view of March et al. (US 6,459,783), hereinafter referred to as March. The Applicant has amended independent claim 7 to more clearly define the intended scope of the claimed invention and distinguish the present invention from the cited references. The Examiner's consideration of the amended claims is respectfully requested.

As discussed above, the combination of Forte, Anderson, and Lakhani does not teach or suggest the limitations of amended independent claim 7. The addition of

March does not make up the missing limitations. Claim 9 depends from claim 7 and recites further limitations in combination with the novel elements of claim 7. Therefore, the allowance of claim 9 is respectfully requested.

Claim 10 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Forte, Anderson, Czerwiec and further in view of Lakhani. The Applicant has amended independent claim 10 to more clearly define the intended scope of the claimed invention and distinguish the present invention from the cited references. The Examiner's consideration of the amended claims is respectfully requested.

Independent claim 10 has been amended and now recites: accessing internal signals of the class 5 digital switching system used to control line and trunk interfaces of the class 5 digital switching system and convey data in and out of the line and trunk interfaces; providing a switching system interface comprising at least one network interface connected to at least one digital transmission facility that is part of a network architecture, and comprising interfaces compatible with the internal signals; and connecting the compatible interfaces of the switching system interface to the internal signals of the class 5 digital switching system, the connection between the compatible interfaces and the internal signals enabling a terminal in the network architecture to directly operate the internal signals to provide telecommunications service to subscribers connected to the line and trunk interfaces without the use of the common-control-and switch matrix of the class 5 digital switching system. No new matter has been added.

The combination of Forte, Anderson, Czerwiec, and Lakhani do teach or suggest the newly added limitations. The addition of March does not make up the missing elements. Therefore, the allowance of claim 10 is respectfully requested.

Claims 11-14 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Forte, Anderson, Czerwiec, Lakhani and further in view of March. The Applicant has amended independent claim 10 to more clearly define the intended scope of the claimed invention and distinguish the present invention from the cited references. The Examiner's consideration of the amended claims is respectfully requested.

The combination of Forte, Anderson, Czerwec and Lakhani do teach or suggest the newly added limitations. Claims 11-14 depend from claim 10 and recite further limitations in combination with the novel elements of claim 10. Therefore, the allowance of claims 11-14 is respectfully requested.

Claims 15 and 16 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Forte in view of Anderson. The Applicant has amended independent claim 15 to more clearly define the intended scope of the claimed invention and distinguish the present invention from the cited references. The Examiner's consideration of the amended claims is respectfully requested.

Independent claim 15 has been amended and now recites a switching system interface used to bypass a common control and switch matrix of a digital switch. No new matter has been added.

The combination of Forte and Anderson do teach or suggest the newly added limitations. Claim 16 depends from claim 15 and recites further limitations in combination with the novel elements of claim 15. Therefore, the allowance of claims 15 and 16 is respectfully requested.

#### **Allowable Subject Matter**

Claims 3 and 5 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form. Claim 1 has been amended to overcome the rejection. Therefore, the allowance of claims 3 and 5 is respectfully requested.

### **CONCLUSION**

In view of the foregoing remarks, the Applicant believes all of the claims currently pending in the Application to be in a condition for allowance. The Applicant, therefore, respectfully requests that the Examiner withdraw all rejections and issue a Notice of Allowance for all pending claims.

The Applicant requests a telephonic interview if the Examiner has any questions or requires any additional information that would further or expedite the prosecution of the Application.

Respectfully submitted,

/michaeldiaz/

By Michael L. Diaz  
Registration No. 40,588

Date: March 30, 2009

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Electronic Patent Application Fee Transmittal				
Application Number:		11289179		
Filing Date:		29-Nov-2005		
Title of Invention:		Method and system for combining a conversion between time-division multiplexed digital signals and packetized digital signals with a switching system interface		
First Named Inventor/Applicant Name:		David M. Smith		
Filer:		Michael Louis Diaz		
Attorney Docket Number:		5084-0008		
Filed as Small Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Extension - 2 months with \$0 paid	2252	1	245	245

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
<b>Miscellaneous:</b>				
<b>Total in USD (\$)</b>				<b>245</b>

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	5061580
<b>Application Number:</b>	11289179
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	7285
<b>Title of Invention:</b>	Method and system for combining a conversion between time-division multiplexed digital signals and packetized digital signals with a switching system interface
<b>First Named Inventor/Applicant Name:</b>	David M. Smith
<b>Customer Number:</b>	28777
<b>Filer:</b>	Michael Louis Diaz
<b>Filer Authorized By:</b>	
<b>Attorney Docket Number:</b>	5084-0008
<b>Receipt Date:</b>	30-MAR-2009
<b>Filing Date:</b>	29-NOV-2005
<b>Time Stamp:</b>	16:54:28
<b>Application Type:</b>	Utility under 35 USC 111(a)

### Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$245
RAM confirmation Number	2771
Deposit Account	
Authorized User	

### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
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1	Amendment/Req. Reconsideration-After Non-Final Reject	amendment1.pdf	43848 207fc9daad270a05c2d11df46fedb8921ece 4870	no	12
<b>Warnings:</b>					
<b>Information:</b>					
2	Fee Worksheet (PTO-06)	fee-info.pdf	29928 2ca38a640a4d9dfdd3702f5982f1d8c19dc36 ad8e	no	2
<b>Warnings:</b>					
<b>Information:</b>					
<b>Total Files Size (in bytes):</b>			73776		
<p><b>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</b></p> <p><b><u>New Applications Under 35 U.S.C. 111</u></b>  <b>If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</b></p> <p><b><u>National Stage of an International Application under 35 U.S.C. 371</u></b>  <b>If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</b></p> <p><b><u>New International Application Filed with the USPTO as a Receiving Office</u></b>  <b>If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</b></p>					

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

<b>PATENT APPLICATION FEE DETERMINATION RECORD</b> Substitute for Form PTO-875					Application or Docket Number <b>11/289,179</b>		Filing Date <b>11/29/2005</b>		<input checked="" type="checkbox"/> To be Mailed									
<b>APPLICATION AS FILED – PART I</b>																		
(Column 1)			(Column 2)			SMALL ENTITY <input checked="" type="checkbox"/>		OR		OTHER THAN SMALL ENTITY								
FOR		NUMBER FILED		NUMBER EXTRA		RATE (\$)		FEE (\$)										
<input type="checkbox"/> BASIC FEE (37 CFR 1.16(a), (b), or (c))		N/A		N/A		N/A												
<input type="checkbox"/> SEARCH FEE (37 CFR 1.16(k), (l), or (m))		N/A		N/A		N/A												
<input type="checkbox"/> EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))		N/A		N/A		N/A												
TOTAL CLAIMS (37 CFR 1.16(i))		minus 20 =		*		X \$ =				OR								
INDEPENDENT CLAIMS (37 CFR 1.16(h))		minus 3 =		*		X \$ =				OR								
<input type="checkbox"/> APPLICATION SIZE FEE (37 CFR 1.16(s))		If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).																
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))																		
* If the difference in column 1 is less than zero, enter "0" in column 2.																		
<b>APPLICATION AS AMENDED – PART II</b>																		
(Column 1)			(Column 2)			(Column 3)			SMALL ENTITY		OR		OTHER THAN SMALL ENTITY					
<b>AMENDMENT</b>	<b>03/30/2009</b>		CLAIMS REMAINING AFTER AMENDMENT				HIGHEST NUMBER PREVIOUSLY PAID FOR		PRESENT EXTRA		RATE (\$)		ADDITIONAL FEE (\$)					
	Total (37 CFR 1.16(i))		* 16		Minus		** 20		= 0		X \$26 =		0					
	Independent (37 CFR 1.16(h))		* 4		Minus		*** 4		= 0		X \$110 =		0					
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))																	
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))																	
											TOTAL ADD'L FEE		0		OR		TOTAL ADD'L FEE	
(Column 1)			(Column 2)			(Column 3)			SMALL ENTITY		OR		OTHER THAN SMALL ENTITY					
<b>AMENDMENT</b>			CLAIMS REMAINING AFTER AMENDMENT				HIGHEST NUMBER PREVIOUSLY PAID FOR		PRESENT EXTRA		RATE (\$)		ADDITIONAL FEE (\$)					
	Total (37 CFR 1.16(i))		*		Minus		**		=		X \$ =		=					
	Independent (37 CFR 1.16(h))		*		Minus		***		=		X \$ =		=					
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))																	
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))																	
											TOTAL ADD'L FEE				OR		TOTAL ADD'L FEE	
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.																		
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".																		
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".																		
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.																		

Legal Instrument Examiner:  
/NICHELE PETERSON/

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.
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11/289,179

11/29/2005

David M. Smith

5084-0008

7285

28777 7590 10/28/2008  
MICHAEL L. DIAZ, P.C.  
555 REPUBLIC DRIVE, SUITE 200  
PIANO, TX 75074

EXAMINER

NGUYEN, QUYNH H

ART UNIT

PAPER NUMBER

2614

MAIL DATE

DELIVERY MODE

10/28/2008

PAPER

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

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

<b>Office Action Summary</b>	<b>Application No.</b> 11/289,179	<b>Applicant(s)</b> SMITH, DAVID M.	
	<b>Examiner</b> QUYNH H. NGUYEN	<b>Art Unit</b> 2614	

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

### Period for Reply

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

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

### Status

- 1) ☒ Responsive to communication(s) filed on 29 November 2005.
- 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) 1-16 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) 1-2, 4, and 6-16 is/are rejected.
- 7) ☒ Claim(s) 3 and 5 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 \_\_\_\_\_ 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)<br>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                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 101***

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 1-16 are rejected under 35 U.S.C. 101 because the claimed invention falls outside of the statutory categories. While claims 1, 7, and 15 claim "means for...", and 10 define a "method", intrinsic evidence within the specification suggests that the method and means for are drawn to steps performed purely by software (i.e., see paragraph [0012]) and software per se is neither a "product" nor a "process" in a statutory sense. The aforementioned intrinsic evidence in the specification suggests that the full scope of the claimed method encompasses nothing more than software and is therefore non-statutory for that reason. Furthermore, a practical application exists if the *result* of the claimed invention is "useful, concrete and tangible". It appears that applicant is defining a series of instances (SGP) used for determining information (e.g. routing information). Thus, determining information would not provide a tangible result.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

Art Unit: 2614

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 recites the limitation "the data" in line 7. There is insufficient antecedent basis for this limitation in the claim.

Claim 7 recites the limitation "the data" in line 9 and limitation "the internal signals" in line 7. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 103***

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

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

5. Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Czerwiec (U.S. Patent 5,903,372) in view of Anderson et al. (US Patent 6,064,673).

As to claim 1, Czerwiec teaches an apparatus for distribution of video and telephony services to subscribers comprising an optical network unit (ONU) connected by means of an optical fiber to a remote terminal (Fig. 1). The ONU includes a switch matrix card 24 for installation for subscribers for providing telephony services over a single twisted wire pairs 12 (line interface). Figure 5 provides the primary subscriber 40 with video services via hard-wired video card 30 and bypassing the switch matrix card.

Czerwiec does not teach means for converting the data between time-division multiplexed digital signals of a legacy line frame of a legacy line and packetized digital signals utilizing pulse code modulation (PCM) data transport.

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Anderson teaches means for converting the data between time-division multiplexed digital signals (col. 2, lines 12-20) and packetized digital signals utilizing pulse code modulation (PCM) data transport (col. 5, line 65 through col. 6, line 10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Anderson into the teachings of Czerwiec for the purpose of having a more efficient system, cost effective, and providing quality of service for voice and other applications that need real-time bandwidth when a network is heavily loaded, as discussed by Anderson (col. 2, lines 21-29).

As to claim 2, Anderson teaches the packetized data transport is Internet Protocol (col. 2, lines 7-15).

6. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Forte (Pub. No. US2002/0128023) and Anderson and further in view of Lakhani et al. (Pub. No. US 2004/0081174).

As to claim 7, Forte teaches a network / switching system interface for terminating a digital transmission facility that is part of a network architecture (Fig. 1; page 3, [0025] - [000029]).

Forte does not explicitly teach a line/trunk interface for terminating a digital transmission facility that is part of network architecture; and compatible with the internal signals used to operate the line/trunk interface of the class 5 switch; and means for converting the data between time division multiplexed digital signals and packetized digital signals.

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Lakhani et al. teaches a line/trunk interface for terminating a digital transmission facility that is part of a network architecture (page 2, [0019 - [0021]]; and compatible with the internal signals used to operate the line/trunk interface of the class 5 switch (page 2, [0019]); a switching means for routing data between the network interface and to the line/trunk interface (page 2, [0019]; page 3, [0029]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Lakhani into the teachings of Forte for the purpose of having a more efficient system, such integration of facilities will reduce the floor space required and operating overhead, as discussed by Lakhani (page 1, [0006]). Lakhani does not teach means for converting the data between time division multiplexed digital signals and packetized digital signals.

Anderson teaches means for converting the data between time-division multiplexed digital signals (col. 2, lines 12-20) and packetized digital signals.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Anderson into the teachings of Czerwiec for the purpose of having a more efficient system, cost effective, and providing quality of service for voice and other applications that need real-time bandwidth when a network is heavily loaded, as discussed by Anderson (col. 2, lines 21-29).

As to claim 8, Anderson teaches interfacing with the PBX to enable the converting between time division multiplexed digital signal to packet based signal (col. 2, lines 17-20), hence it would have been obvious that the PBX utilizing digital processor to enable the conversion.

7. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Forte, Anderson, and Lakhani and further in view of March et al. (U.S. Patent 6,459,783).

Claim 9 is rejected for the same reasons as discussed in claim 12.

8. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Forte, Anderson, Czerwec, and further in view of Lakhani et al. (Pub. No. US 2004/0081174).

Claim 10 is rejected for the same reasons as discussed above with respect to claims 1 and 7.

9. Claims 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Forte, Anderson, Czerwec, Lakhani and further in view of March et al. (U.S. Patent 6,459,783).

As to claim 12, Czerwec and Anderson do not teach the steps of capturing telephone numbers dialed by subscribers connected to the line trunk interfaces, storing within the switching system a list of telephone numbers of known internet service providers; and comparing the dialed numbers against the list of known internet service providers numbers identify dial-up internet calls.

March et al. teaches capturing telephone numbers dialed by subscribers (col. 1, lines 28-32); the originating switch requests a number lookup for the directory number (col. 2, lines 41-43); diverting the dial-up internet call into the facilities for handling internet traffic ("the Internet 106") (col. 6, lines 35-40) separate from voice calls

Art Unit: 2614

("telephone traffic network 104"). However, March et al. do not teach a memory for storing within the switching system interface in list of telephone numbers of known Internet service providers.

It would have been advantageous to divert the dial-up internet calls away for the telephone traffic network in order to relieve the host switching system or media gateway of a significant portion of Internet traffic.

As to claim 11, March teaches looking up for the directory number (col. 2, lines 41-47); diverting the dial-up internet call into the facilities for handling internet traffic ("the Internet 106") (col. 6, lines 35-40) separate from the terminal ("telephone traffic network 104").

As to claim 13, March teaches connecting a digital signal processor within the telecommunications network to second connection (col. 9, lines 28-31) to enable the media gateway to communicate with the signals (col. 4, lines 47-64; col. 7, line 67 through col. 8, line 4; col. 8, lines 40-54).

As to claim 14, March teaches the steps of: receiving signals originating from a network; receiving Pulse code Modulation data and signal ([0011]). Anderson teaches transmitting the PCM data ([0029], transmitting the packetized data to an IP address [0030]), and it would have been obvious that the data is packetized prior to transmitting.

10. Claims 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Forte (Pub. No. US2002/0128023) in view of Anderson et al. (US Patent 6,064,673).

As to claim 15, Forte teaches the steps of:

an emergency standalone switch (Fig. 6, WC 30a) for controlling call control functions (page 8, [0062], lines 7-8); and

means for routing a call from a first subscriber line to a second subscriber line through the emergency standalone switch (page 8, [0062]);

whereby the emergency switching system provides emergency or local call service to a localized area serviced (page 8, [0062]) by the digital switch (page 10, [0077] - *where Forte discussed the communication lines may be of any form, e.g. digital switch*).

Forte does not teach means for converting time division multiplexed digital signals and packetized digital signals.

Anderson teaches means for converting time division multiplexed digital signals and packetized digital signals (col. 2, lines 12-20).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Anderson into the teachings of Forte for the purpose of having a more efficient system, cost effective, and providing quality of service for voice and other applications that need real-time bandwidth when a network is heavily loaded, as discussed by Anderson (col. 2, lines 21-29).

As to claim 16, Forte teaches a database (Fig. 6, *WC's 30a database*) storing a plurality of directory numbers of subscribers located within the localized area, the database providing directory numbers for call control by the emergency standalone switch for providing local or emergency call service to a subscriber serviced by the digital switch (page 8, [0060] - [0062]).

***Allowable Subject Matter***

11. Claims 3 and 5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As to claims 3 and 5, prior arts of record fail to teach, or render obvious, alone or in combination a switching system converter providing conversion between time division multiplexed digital signals and packetized digital signals used to bypass a common control and switch matrix of a class 5 digital switch comprising the claimed means and their components, relationships, and functionalities as specifically recited in claims 3 and 5 and independent claim 1 that claims 3 and 5 depend on.

Claims 4 and 6 are objected because they depend on objected claims 3 and 5, respectively.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quynh H. Nguyen whose telephone number is 571-272-7489. The examiner can normally be reached on Monday - Thursday from 6:30 A.M. to 5:00 P.M. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ahmad Matar, can be reached on 571-272-7488. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2614

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).

/Quynh H Nguyen/  
Primary Examiner, Art Unit 2614

<b>Notice of References Cited</b>	Application/Control No. 11/289,179		Applicant(s)/Patent Under Reexamination SMITH, DAVID M.	
	Examiner QUYNH H. NGUYEN		Art Unit 2614	Page 1 of 1

#### U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2002/0128023	09-2002	Forte, Stephen P.	455/461
*	B	US-2004/0081174	04-2004	Lakhani et al.	370/395.61
*	C	US-6,459,783	10-2002	March et al.	379/211.02
*	D	US-6,064,673	05-2000	Anderson et al.	370/389
*	E	US-5,903,372	05-1999	Czerwiec, Richard M.	398/66
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			


#### FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

#### NON-PATENT DOCUMENTS


*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

<p align="center"><b><i>Index of Claims</i></b></p> 	<b>Application/Control No.</b> 11289179	<b>Applicant(s)/Patent Under Reexamination</b> SMITH, DAVID M.
	<b>Examiner</b> QUYNH H NGUYEN	<b>Art Unit</b> 2614

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

<input type="checkbox"/> <b>Claims renumbered in the same order as presented by applicant</b>		<input type="checkbox"/> <b>CPA</b>		<input type="checkbox"/> <b>T.D.</b>		<input type="checkbox"/> <b>R.1.47</b>			
CLAIM		DATE							
Final	Original	10/15/2008							
	1	✓							
	2	✓							
	3	O							
	4	✓							
	5	O							
	6	✓							
	7	✓							
	8	✓							
	9	✓							
	10	✓							
	11	✓							
	12	✓							
	13	✓							
	14	✓							
	15	✓							
	16	✓							

<b>Search Notes</b>  	<b>Application/Control No.</b>  11289179	<b>Applicant(s)/Patent Under Reexamination</b>  SMITH, DAVID M.
	<b>Examiner</b>  QUYNH H NGUYEN	<b>Art Unit</b>  2614

SEARCHED			
Class	Subclass	Date	Examiner
379	224, 9.05, 14, 14.01, 15.02, 15.03, 15.04, 112.02, 221.04, 279, 221.03	10/15/08	QN

SEARCH NOTES		
Search Notes	Date	Examiner
searched: East, USPGPUB, USPAT, EPO, JPO	10/15/08	QN
Inventor searched in PALM	10/15/08	QN

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

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## BIB DATA SHEET

CONFIRMATION NO. 7285

<b>SERIAL NUMBER</b> 11/289,179	<b>FILING or 371(c) DATE</b> 11/29/2005 <b>RULE</b>	<b>CLASS</b> 379	<b>GROUP ART UNIT</b> 2614	<b>ATTORNEY DOCKET NO.</b> 5084-0008		
<b>APPLICANTS</b> David M. Smith, Plano, TX; <b>** CONTINUING DATA *****</b> This application is a CIP of 10/971,821 10/22/2004 PAT 7,319,747 <b>** FOREIGN APPLICATIONS *****</b> <b>** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** ** SMALL ENTITY **</b> 01/04/2006						
Foreign Priority claimed <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No 35 USC 119(a-d) conditions met <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Verified and Acknowledged <u>/QUYNH H NGUYEN/</u> Examiner's Signature		<input type="checkbox"/> Met after Allowance Initials	<b>STATE OR COUNTRY</b> TX	<b>SHEETS DRAWINGS</b> 6	<b>TOTAL CLAIMS</b> 16	<b>INDEPENDENT CLAIMS</b> 4
<b>ADDRESS</b> MICHAEL L. DIAZ, P.C. 555 REPUBLIC DRIVE, SUITE 200 PIANO, TX 75074 UNITED STATES						
<b>TITLE</b> Method and system for combining a conversion between time-division multiplexed digital signals and packetized digital signals with a switching system interface						
<b>FILING FEE RECEIVED</b> 600	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)			
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			<input type="checkbox"/> Other _____			
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112905

18351 U.S. PTO

113277 U.S. PTO  
11/289179

112905

PTO/SB/05 (01-04)

Approved for use through 07/31/2006. OMB 0651-0032

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**UTILITY  
PATENT APPLICATION  
TRANSMITTAL**

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Attorney Docket No.	5084-0008
First Inventor	David Smith
Title	Method and System For Com
Express Mail Label No.	ED041249662US

**APPLICATION ELEMENTS**

See MPEP chapter 600 concerning utility patent application contents.

**ADDRESS TO:**Mail Stop Patent Application  
Commissioner for Patents  
P.O. Box 1450  
Alexandria VA 22313-1450

1. ☒ Fee Transmittal Form (e.g., PTO/SB/17)  
(Submit an original and a duplicate for fee processing)
2. ☒ Applicant claims small entity status.  
See 37 CFR 1.27.
3. ☒ Specification [Total Pages 26]  
(preferred arrangement set forth below)
  - 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. ☒ Drawing(s) (35 U.S.C. 113) [Total Sheets 6]
5. Oath or Declaration [Total Sheets         ]
  - a. ☒ Newly executed (original or copy)
  - b. ☐ Copy from a prior application (37 CFR 1.63(d))  
(for continuation/divisional with Box 18 completed)
  - i. ☐ **DELETION OF INVENTOR(S)**  
Signed statement attached deleting inventor(s)  
name in the prior application, see 37 CFR  
1.63(d)(2) and 1.33(b).
6. ☐ Application Data Sheet. See 37 CFR 1.76

7. ☐ CD-ROM or CD-R in duplicate, large table or  
Computer Program (Appendix)
8. Nucleotide and/or Amino Acid Sequence Submission  
(if applicable, all necessary)
  - a. ☐ Computer Readable Form (CRF)
  - b. Specification Sequence Listing on:
    - i. ☐ CD-ROM or CD-R (2 copies); or
    - ii. ☐ Paper
  - c. ☐ Statements verifying identity of above copies

**ACCOMPANYING APPLICATION PARTS**

9. ☐ Assignment Papers (cover sheet & document(s))
10. ☐ 37 CFR 3.73(b) Statement ☒ Power of Attorney  
(when there is an assignee)
11. ☐ English Translation Document (if applicable)
12. ☐ Information Disclosure Statement (IDS)/PTO-1449 ☐ Copies of IDS Citations
13. ☐ Preliminary Amendment
14. ☒ Return Receipt Postcard (MPEP 503)  
(Should be specifically itemized)
15. ☐ Certified Copy of Priority Document(s)  
(if foreign priority is claimed)
16. ☐ Nonpublication Request under 35 U.S.C. 122  
(b)(2)(B)(i). Applicant must attach form PTO/SB/35  
or its equivalent.
17. ☐ Other:

18. If a CONTINUING APPLICATION, check appropriate box, and supply the requisite information below and in the first sentence of the specification following the title, or in an Application Data Sheet under 37 CFR 1.76:

☐ Continuation ☐ Divisional ☒ Continuation-in-part (CIP) of prior application No.: 10/971821


Prior application information:

Examiner UnknownArt Unit: Unknown

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 has been inadvertently omitted from the submitted application parts.

**19. CORRESPONDENCE ADDRESS**☒ Customer Number: 28777 OR ☐ Correspondence address below

Name	Michael L. Diaz		
Address	555 Republic Drive, Suite 200		
City	Plano	State	Texas
Country	United States	Telephone	(972) 578-5669
		Fax	(972) 422-9138

Name (Print/Type)	Michael L. Diaz	Registration No. (Attorney/Agent)	40,588
Signature		Date	11-29-05

This collection of information is required by 37 CFR 1.53(b). 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: Mail Stop Patent Application, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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Effective on 12/08/2004. Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818). <b>FEE TRANSMITTAL</b> <b>For FY 2005</b>		<b>Complete if Known</b>	
<input checked="" type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27		Application Number	Unknown
		Filing Date	11-29-2005
		First Named Inventor	David Smith
		Examiner Name	Unknown
		Art Unit	Unknown
<b>TOTAL AMOUNT OF PAYMENT</b> (\$) 600		Attorney Docket No.	5084-0008

**METHOD OF PAYMENT** (check all that apply)

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 ☐ Money Order 
 ☐ None 
 ☐ Other (please identify): \_\_\_\_\_

☐ Deposit Account Deposit Account Number: \_\_\_\_\_ Deposit Account Name: \_\_\_\_\_

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

☐ Charge fee(s) indicated below 
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☐ Charge any additional fee(s) or underpayments of fee(s) under 37 CFR 1.16 and 1.17 
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**FEE CALCULATION**

**1. BASIC FILING, SEARCH, AND EXAMINATION FEES**

Application Type	FILING FEES		SEARCH FEES		EXAMINATION FEES		Fees Paid (\$)
	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	
Utility	300	150	500	250	200	100	500
Design	200	100	100	50	130	65	
Plant	200	100	300	150	160	80	
Reissue	300	150	500	250	600	300	
Provisional	200	100	0	0	0	0	

**2. EXCESS CLAIM FEES**

Fee Description	Fee (\$)	Small Entity Fee (\$)
Each claim over 20 (including Reissues)	50	25
Each independent claim over 3 (including Reissues)	200	100
Multiple dependent claims	360	180

**Total Claims** 16 - 20 or HP = 0 x 25 = 0  
 HP = highest number of total claims paid for, if greater than 20.

**Indep. Claims** 1 - 3 or HP = 0 x 100 = 100  
 HP = highest number of independent claims paid for, if greater than 3.

**3. APPLICATION SIZE FEE**

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

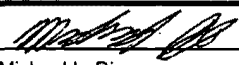
Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof	Fee (\$)	Fee Paid (\$)
16	16 - 100 =	1	125	125

**4. OTHER FEE(S)**

Non-English Specification, \$130 fee (no small entity discount)

Other (e.g., late filing surcharge):

**SUBMITTED BY**

Signature		Registration No. (Attorney/Agent) 40,588	Telephone 972-578-5669
Name (Print/Type)	Michael L. Diaz	Date	11-29-05

This collection of information is required by 37 CFR 1.136. 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 30 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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5084-0008

PATENT

**METHOD AND SYSTEM FOR COMBINING A CONVERSION BETWEEN  
TIME-DIVISION MULTIPLEXED DIGITAL SIGNALS AND PACKETIZED  
DIGITAL SIGNALS WITH A SWITCHING SYSTEM INTERFACE**

**METHOD AND SYSTEM FOR COMBINING A CONVERSION BETWEEN  
TIME-DIVISION MULTIPLEXED DIGITAL SIGNALS AND PACKETIZED  
DIGITAL SIGNALS WITH A SWITCHING SYSTEM INTERFACE**

**RELATED APPLICATIONS**

**[0001]** This application is a continuation-in-part of a co-pending U.S. Patent Application No. 10/971821 by David M. Smith entitled "METHOD AND SYSTEM FOR COMBINING AN EMERGENCY STANDALONE SWITCHING DEVICE WITH A SWITCHING SYSTEM INTERFACE," filed October 22, 2004 which claims the priority of U.S. Patent No. 6,807,273 by David M. Smith entitled "METHOD AND APPARATUS FOR BYPASSING THE COMMON CONTROL AND SWITCH MATRIX OF A DIGITAL SWITCHING SYSTEM FOR TELECOMMUNICATIONS NETWORKS," filed November 30, 2001 and are hereby both incorporated in their entirety by reference herein.

**BACKGROUND OF THE INVENTION**

Field of the Invention:

**[0002]** This invention relates to telecommunications. Specifically, the present invention relates to a system and method of providing a conversion between time-division multiplexed digital signals and packetized digital signals with a switching system interface utilized to bypass a common control and switch matrix of a digital switch.

Description of the Related Art:

**[0003]** A class 5 central office comprises a building or room which houses a class 5 switching system, which operates to connect telephones and other devices used by end-user customers ("subscribers") to a telecommunications network such as the public switched telephone network ("PSTN"). A class 5 digital switch also converts the analog signals used by telephones, modems, FAX machines, and some PBX trunks, into the digital signals that are routed through a digital telecommunications network. The class 5 digital switch also provides special services for caller ID displays and message waiting lights for subscribers, and it processes and routes calls from digital PBX trunks, ISDN lines, and digital loop carriers ("DLC") to a telecommunications network.

**[0004]** U.S. Patent No. 6,807,273 ("273") discloses a novel method and system for bypassing a common control and switch matrix of a class 5 digital switch by a switching system interface that couples one or more line/trunk frames of the digital switch to one or more transmission facilities in a communications network that preferably operates under an industry-recognized protocol.

**[0005]** A common control and switch matrix of a first class 5 digital switch may be bypassed by a switching system interface that couples one or more line/trunk frames of the digital switch to one or more industry standard digital transmission facilities that make up the remote end of an industry standard DLC architecture. This configuration provides the benefit that the line/trunk frames associated with the first digital switch may be operated by a second class 5 digital switch or media gateway of any manufacture, so that the legacy software of the first digital switch may be discarded and/or any limitations of the legacy switch matrix may be overcome, while retaining the

installed legacy line/trunk frames and cable plant and incurring minimal changes to the installed physical plant.

**[0006]** There is a trend to employ networks that carry both voice calls and data over common transport based on connectionless access protocols such as asynchronous transfer mode ("ATM") and transport control protocol/internet protocol ("TCP/IP"). These networks are also referred to as "packet networks". Packet networks simplify the problem of carrying both voice and data from region to region. Routing calls over such a network permits the use of common routing hardware controlled by so-called "soft switches", which essentially are computers running call processing software.

**[0007]** "Media gateways" are specialized packet switches that also convert the time-division multiplexed digital format of voice calls on trunks from legacy class 5 switches into the packetized formats used in packet networks. Present methods require the use of a media gateway in order to route calls from legacy time-division multiplexed equipment through a packet network.

**[0008]** Virtually all media gateways support GR303 as a protocol for interfacing to time-division multiplexed equipment. Therefore, a switching system interface for bypassing the common control and switch matrix of a class 5 digital switch, by coupling the line/trunk frames of the digital switch to digital transmission facilities that make up the remote end of an industry standard DLC architecture, can be used with a media gateway to route calls between the line/trunk frames and a packet network. However, the cost and complexity are increased by virtue of the fact that two types of network equipment must be purchased, installed, and administered. The complexity of this configuration may be further increased if the softswitch that processes calls for the packet network controls both the media gateway and switching system interface.

**[0009]** Therefore, what is needed is a system and method to provide the conversion between time-division multiplexed digital signals and

packetized digital signals within the switching system interface in order to eliminate separate and different types of costly equipment, such as media gateways.

**[0010]** If a network operator chooses to bypass the common control and switch matrix of several class 5 digital switches, one or more of the line/trunk frames of each of the digital switches may be placed under the control of another digital switch that provides call processing for a larger geographical region, in order to reduce the number of switches in the network. The telecommunications industry often refers to this as "network flattening" or "network collapsing," and it can provide many advantages to the network operator, such as lower equipment costs, lower operating and maintenance costs, more efficient use of complex switching software and routing databases, simpler network management, etc.

**[0011]** U.S. Application number 10/971,821 discloses the use of an emergency standalone switching device. The switching system interface may then be equipped with the emergency standalone switching device, so that the combination can be used with the regional full-featured switching system while maintaining the capability to make local and 911 calls in a serving area that is temporarily isolated from the regional system due to equipment failure, facility damage, or other reasons. This combination also has the advantage that the switching system interface can be used to aggregate subscribers in the serving area that are served through DLCs, as well as those served through legacy line/trunk frames. This allows all subscribers served by time-division multiplexed equipment to be protected by the emergency standalone switching device in the switching system interface, and for call processing to take place through one call control interface to the switching system interface. This simplifies the network topology and simplifies the task of administering the databases necessary for the emergency standalone switching device.

**[0012]** It would also be advantageous to aggregate subscribers who use packet-based telephones, such as IP phones that are now being used by

some businesses, or who use telephones connected to packet-based access networks, such as new-generation telephone service over cable systems. This would allow all subscribers in a serving area to be protected by the emergency standalone switching device in the switching system interface, and for all call processing to take place through one call control interface to the switching system interface. This configuration provides the benefit of simplifying the network topology to the point where all forms of telephony would integrate seamlessly into one network.

**[0013]** Therefore, a system and method is needed to implement the conversion between time-division multiplexed digital signals and packetized digital signals within the switching system interface, along with the emergency standalone switching device, in such a way that all subscribers in a serving area can be served by the same call processing interface and the same regional full-featured switching system, and be protected by a common emergency standalone switching device with a common database. In addition, the entire combination should be able to route and process calls between subscribers within a serving area without the need for external switching equipment, such as a softswitch.

**[0014]** Thus, it would be a distinct advantage to provide a system and method to combine a conversion between time-division multiplexed digital signals and packetized digital signals with a switching system interface used to bypass the common control and switch matrix of a class 5 digital switch, and also with a switching system interface that includes an emergency standalone switching device. It is an object of the present invention to provide such a system and method.

## **SUMMARY OF THE INVENTION**

**[0015]** It is a primary object of this invention to combine a conversion

between time-division multiplexed digital signals and packetized digital signals with a switching system interface used to bypass the common control and switch matrix of a legacy class 5 digital switch, so that the combination can be used to convert and route calls between time-division multiplexed equipment, such as legacy line/trunk frames, DLCs, and a packet network.

**[0016]** It is a further object of this invention to combine an emergency standalone switching device that can route calls between subscribers in a serving area without the use of external switching equipment, and regardless of whether the subscribers are served by time-division multiplexed equipment or by any form of pack-based equipment or access network.

**[0017]** In accordance with the present invention, a conversion between time-division multiplexed digital signals and packetized digital signals with a switching system interface used to bypass the common control and switch matrix of a legacy class 5 digital switch is provided such that calls may be routed between time-division multiplexed equipment and a packet network, and that an emergency standalone switching device may route calls between subscribers within a serving area without the use of external switching equipment.

**[0018]** In one aspect, the present invention is a switching system converter providing conversion between time-division multiplexed digital signals and packetized digital signals used to bypass a common control and switch matrix of a class 5 digital switch. The switching system converter includes at least one network interface for terminating a digital transmission facility that is part of a packet-network architecture. In addition, the interface includes at least one line/trunk interface, compatible with the internal signals used to operate the line/trunk frame of the class 5 digital switching system and a switching means, connected to the network interface and to the line/trunk interface, for routing data between network interfaces and line/trunk interface. The interface may also convert the data between time-division multiplexed digital signals and packetized digital signals.

**[0019]** In another aspect, the present invention is a method of combining packetized digital signals and time-division multiplexed digital signals with a switching system interface used to bypass the common control and switch matrix of a legacy class 5 digital switch. The method begins by accessing a first connection providing internal signals used to control line and trunk interfaces of the first digital switching system and convey data in and out of the line and trunk interfaces. Next, a switching system interface, which is compatible with the first connection providing internal signals, is applied to the first connection. The switching system interface bypasses at least a portion of the common control and switch matrix. The interface is compatible with a digital transmission facility within the telecommunications network. The signals are then converted between packetized digital signals and time-division multiplexed digital signals through the switching system interface as required.

**[0020]** In still another aspect, the present invention is an emergency switching system with a switching system interface providing conversion between time-division multiplexed digital signals and packetized digital signals used to bypass a common control and switch matrix of a class 5 digital switch. The emergency switching system includes an emergency standalone switch for controlling call control functions and means for routing a call from a first subscriber line to a second subscriber line through the emergency standalone switch. The emergency switching system may also include a conversion of time-division multiplexed digital signals and packetized digital signals. The emergency switching system provides emergency or local call service to a localized area serviced by the digital switch.

## BRIEF DESCRIPTION OF THE DRAWINGS

**[0021]** Figure 1 illustrates an exemplary embodiment of a switching system interface that couples the line/trunk frames of a legacy class 5 digital switch and DS1s serving DLCs to a host switch using a DLC protocol;

**[0022]** FIG. 2 illustrates an exemplary embodiment of the internal PCM data paths of the switching system interface of FIG. 1;

**[0023]** FIG. 3 illustrates a switching system interface having additional functions of connecting to IP-based networks and converting between time-division multiplexed and packet-based digital signals in the preferred embodiment of the present invention;

**[0024]** FIG. 4 is a flow chart outlining the steps for converting time-divisions multiplexed digital signals to packetized digital signals with a switching system interface used to bypass the common control and switch matrix of a legacy class 5 digital switch according to the teachings of the present invention;

**[0025]** FIG. 5 is a flow chart outlining the steps for converting packetized digital signals to time-division multiplexed digital signals with a switching system interface used to bypass the common control and switch matrix of a legacy class 5 digital switch according to the teachings of the present invention; and

**[0026]** FIG. 6 illustrates a switching system interface providing a registry and proxy server to enable IP-based call control in an alternate embodiment of the present invention.

## DESCRIPTION OF THE INVENTION

**[0027]** A system and method of providing a conversion between time-division multiplexed digital signals and packetized digital signals with a

switching system interface utilized to bypass a common control and switch matrix of a digital switch is disclosed. Figure 1 illustrates an exemplary embodiment of a switching system interface that couples the line/trunk frames of a legacy class 5 digital switch and DS1s serving DLCs to a host switch using a DLC protocol. One or more line/trunk interfaces 105 couple to legacy line/trunk frames via one or more connections 104. One or more DS1 interfaces 102 connect to one or more transmission facilities 101 that operate remote DLC equipment. In addition, one or more DS1 interfaces 109 connect to one or more transmission facilities 110 that connect, in turn, to a host digital switch or a media gateway. A time-slot interchange function 107 connects to the line trunk interfaces 105 and DS1 interfaces 102 and 109 via internal Pulse Code Modulation (PCM) buses 108, 103, and 106, in order to make connections between timeslots in the interfaces. Calls are thus routed through the switching system interface.

**[0028]** FIG. 2 illustrates an exemplary embodiment of the internal PCM data paths of the switching system interface of FIG. 1. One or more line/trunk frame interfaces 201 received PCM timeslots originating from the legacy line/trunk frames. These PCM timeslots are transmitted over preset timeslots on PCM busses 204. In a similar manner, PCM timeslots originating from transmission facilities connected to DLCs or to the host switch are received by DS1 interfaces 202 and transmitted over present timeslots on PCM bus 204.

**[0029]** The timeslot interchange function 203 receives time-division multiplexed PCM data from one or more PCM busses 204. The time interchange function 203 rearranges the data into new timeslots as necessary and transmits the PCM data onto one or more PCM busses 207. The line/trunk interfaces 201 then receive the PCM data from preset timeslots on PCM buses 207 and transmits the PCM data to the legacy line/trunk frames. In addition, DS1 interfaces 202 receive PCM data from preset timeslots on PCM buses 207 and transmit the PCM data to DLCs and the host switch through external transmission facilities.

**[0030]** FIG. 3 illustrates a switching system interface having additional functions of connecting to IP-based networks and converting between time-division multiplexed and packet-based digital signals in the preferred embodiment of the present invention. The original switching system interface includes line trunk interfaces 301, DS1s 302, a timeslot interchange function 303, a PCM bus 304, and a PCM bus 307. In addition, the present invention also includes an IP section which includes an interface card 310, an IP switch 311, a packet transport 317 and a second packet transport 318. Additionally, in the preferred embodiment, the present invention includes a format converter (FC) 312, a packet transport 315 and a packet transport 316. The FC may convert the time division multiplexed digital voice signals to a packetized format and also may optionally compress the voice format (preferably utilizing a voice compression algorithm such as G.729). The FC may be a digital signal processor (DSP).

**[0031]** Referring to FIG. 3, the format converter 312 receives time-division multiplexed PCM data from preset timeslots on the PCM bus 307. The FC transmits time-division multiplexed PCM data to preset timeslots on PCM bus 304. The FC 312 also may have IP addresses for receiving packets from the IP switch 311 over the packet transport 316 and for transmitting packets back to the IP switch 311 over the packet transport 315. The packet transports may be implemented as 100baseT, which may include separate transmit and receive connections for each device on the network.

**[0032]** One or more network interface cards 310 may allow IP addresses external to the switching system interface depicted in FIG. 3 to the IP switch 311 over the packet transport 317 and to receive packets over the packet transport 318.

**[0033]** To establish a call from a conventional subscriber telephone to the IP network, analog signals from the telephone are converted into PCM data by hardware in the line frames of the switch and, in turn, interface with the line/trunk interfaces 301. The PCM data is then transmitted on a timeslot

on the PCM bus 305 to the timeslot interchange 303. The timeslot interchange 303 transmits the PCM data onto a timeslot on the PCM bus 307 that is preset for the format converter 312. The FC then converts the PCM data to a packet format and transmits the PCM data to an external IP address over the packet transport 318 and the network interface card 310. The interface card 310 may then connect to an external IP network or any other network. Packets from the external IP address are sent to an address in the format converter 312 via the internal network 310, the packet transport 317, the IP switch 311, and the packet transport 316. Packets are then converted by the format converter 312 into time-division multiplexed PCM data and transmitted on a preset timeslot on the PCM bus 313 to the timeslot interchange 303, which, in turn, transmits the PCM data onto a timeslot on the PCM bus 307 that is preset for the conventional telephone connected to the line/trunk frame 301.

**[0034]** The network interface cards 310 and the IP switch 311 may also route packets between two external IP addresses, which could correspond to two local IP telephones or to a local IP telephone and a distant one served by the network. The switching system interface depicted in FIG. 3 may utilize the FC to convert the proprietary representation of legacy line states, such as "on-hook" and "off-hook" into messages that are sent to an external controlling device. In addition, messages may be received and interpreted from an external controlling device to apply legacy line supervision, such as ring voltage. Thus, the external controlling device may utilize the legacy telephone lines for making and receiving phone calls over a packet network. The device may provide a capability for making and receiving telephonic calls over a packet network where calls are set up, routed, and torn down over a local area network (LAN) or the Internet. Additionally, the device may include the capability to register an identity, an address, or other characteristic of the network-based device with the switching system interface. The external controlling device may be used in the PSTN call model to control and route

calls and maintain billing information or any other information associated with a subscriber. Additionally, the present invention may include generation of call progress tones, such as "dial tone," "busy," etc. to be applied to legacy lines under the control from messages originated from an external controlling device. The interface may include the capability for collecting DTMF tones or dial pulses from the legacy lines, interpreting these tones or pulses as digits, and sending the digital information as messages to the external controlling device. The external controlling device may be a pure softswitch that controls calls without directed access to the PCM data.

**[0035]** FIG. 4 is a flow chart outlining the steps for converting time-division multiplexed digital signals to packetized digital signals with a switching system interface used to bypass the common control and switch matrix of a legacy class 5 digital switch according to the teachings of the present invention. With reference to FIGs. 3 and 4, the steps of the method will now be explained. In step 400, analog signals from a telephone are converted into PCM data by line frames of the switch which interface with the line/trunk interfaces 301. In step 402, the PCM data is transmitted on a timeslot on the PCM bus 305 to the timeslot interchange 303. Next, in step 404, the timeslot interchange 303 transmits the PCM data onto a timeslot on the PCM bus 307, which is preset for the format converter 312. In step 406, the PCM bus 307 sends the PCM data to the format converter 312. The method then moves to step 408 where the format converter 312 converts the PCM data to packet form and transmits the data to an external IP address over the packet transport 318 and the network interface card 310.

**[0036]** FIG. 5 is a flow chart outlining the steps for converting packetized digital signals to time-division multiplexed digital signals with a switching system interface used to bypass the common control and switch matrix of a legacy class 5 digital switch according to the teachings of the present invention. With reference to FIGs. 3 and 5, the steps of the method will now be explained. The method begins with step 500 where the packets

from the external IP address are sent to an address in the format converter 312 via the network interface card 310, the packet transport 317, the IP switch 311, and the packet transport 316. Next, in step 502, the packets are then converted by the format converter 312 into time-division multiplexed PCM data. In step 504, the time-division multiplexed PCM data is transmitted onto a preset timeslot on the PCM bus 313 to the timeslot interchange 303. In step 506, the PCM data is then transmitted onto a timeslot on the PCM bus 307 that is preset for the conventional telephone connected to the line/trunk frame 301.

**[0037]** FIG. 6 illustrates a switching system interface providing a registry and proxy server to enable IP-based call control in an alternate embodiment of the present invention. The switching system interface includes line trunk interfaces 601, DS1s 602, a timeslot interchange function 603, a PCM bus 604, and a PCM bus 607. In addition, the present invention also includes an IP section which includes an interface card 610, an IP switch 611, a packet transport 617 and a second packet transport 618. Additionally, in this alternate embodiment, the present invention includes a format converter (FC) 612, a packet transport 615 and a packet transport 616. In a similar manner as described in FIG. 3, the FC may convert the time division multiplexed digital voice signals to a packetized format and also may optionally compress the voice format (preferably utilizing a voice compression algorithm such as G.729). In addition, in this alternate embodiment, the present invention may include a processor 620, a packet transport 621 and a packet transport 622 communicating with the IP switch 611.

**[0038]** Still referring to FIG. 6, the format converter 612 receives time-division multiplexed PCM data from preset timeslots on the PCM bus 607. The FC transmits time-division multiplexed PCM data to preset timeslots on the PCM bus 604. The FC 612 also may have IP addresses for receiving packets from the IP switch 611 over the packet transport 616 and for transmitting packets back to the IP switch 611 over the packet transport 615.

The packet transports may be implemented as 100baseT, which may include separate transmit and receive connections for each device on the network.

**[0039]** One or more network interface cards 610 may allow IP addresses external to the switching system interface depicted in FIG. 6 to the IP switch 611 over the packet transport 617 and to receive packets over the packet transport 618.

**[0040]** To establish a call from a conventional subscriber telephone to the IP network, analog signals from the telephone are converted into PCM data by hardware in the line frames of the switch and, in turn, interface with the line/trunk interfaces 601. The PCM data is then transmitted on a timeslot on the PCM bus 605 to the timeslot interchange 603. The timeslot interchange 603 transmits the PCM data onto a timeslot on the PCM bus 607 that is preset for the format converter 612. The FC then converts the PCM data to a packet format and transmits the PCM data to an external IP address over the packet transport 618 and the network interface card 610. The interface card 610 may then connect to an external IP network or any other network. Packets from the external IP address are sent to an address in the format converter 612 via the internal network 610, the packet transport 617, the IP switch 611, and the packet transport 616. Packets are then converted by the format converter 612 into time-division multiplexed PCM data and transmitted on a preset timeslot on the PCM bus 613 to the timeslot interchange 603, which, in turn, transmits the PCM data onto a timeslot on the PCM bus 607 that is preset for the conventional telephone connected to the line/trunk frame 601.

**[0041]** The network interface cards 610 and the IP switch 611 may also route packets between two external IP addresses, which could correspond to two local IP telephones or to a local IP telephone and a distant one served by the network. Thus, the present invention shown in FIG. 6 enables calls to be set up, routed and torn down over a LAN or the Internet without the need for an external controlling device, such as a softswitch or a proxy server.

Additionally, the present invention may further include the processor 620 to register conventional subscriber phones that are connected to the legacy line frames and proxy server. The processor 620 provides control of call states for these phones. In the embodiment depicted in FIG. 6, the present invention serves as a network end-point for an IP-based call control method, such as Session Initiation Protocol, thereby eliminating the need for a softswitch. The registration may include the network-based device identity, network address and other characteristics with the switching system interface. The processor may also enable one or more network-based proxy servers to register their identities, network addresses, and other characteristics of each legacy line or phone device associated with the switching system interface, thereby creating a public network.

**[0042]** The present invention may also be used to convert time-division multiplexed digital signals and packetized digital signals in a network utilizing an emergency standalone switching device. The emergency standalone switching device may be used to route calls between subscribers in a serving area without the use of external switching equipment and regardless of whether the subscribers are served by time-division multiplexed equipment or by any form of pack-based equipment or access network.

**[0043]** The present invention provides the combination of a conversion function between time-division multiplexed digital signals and packetized digital signals with as switching system interface used to bypass the common control and switch matrix of a legacy class 5 digital switch, so that the combination can be used to route calls between time-division multiplexed equipment, such as legacy line/trunk frames and DLCs and a packet network. The present invention provides the interoperability between different types of digital signals in an economical fashion.

**[0044]** While the present invention is described herein with reference to illustrative embodiments for particular applications, it should be understood that the invention is not limited thereto. Those having ordinary skill in the art

and access to the teachings provided herein will recognize additional modifications, applications, and embodiments within the scope thereof and additional fields in which the present invention would be of significant utility.

**[0045]** Thus, the present invention has been described herein with reference to a particular embodiment for a particular application. Those having ordinary skill in the art and access to the present teachings will recognize additional modifications, applications and embodiments within the scope thereof.

**[0046]** It is therefore intended by the appended claims to cover any and all such applications, modifications and embodiments within the scope of the present invention.

WHAT IS CLAIMED IS:

**CLAIMS**

1. A switching system converter providing conversion between time-division multiplexed digital signals and packetized digital signals used to bypass a common control and switch matrix of a class 5 digital switch, the switching system converter comprising:

a switching system interface having means for bypassing a common control and switch matrix of a class 5 digital switch; and

means for converting the data between time-division multiplexed digital signals of a legacy line frame of a legacy line and packetized digital signals utilizing pulse code modulation (PCM) data transport.

2. The switching system converter of claim 1 wherein the packetized PCM data transport is Internet Protocol (IP).

3. The switching system converter of claim 1 further comprising:  
means for converting a proprietary representation of a legacy line state of the legacy line into a message sent to an external controlling device; and

means for receiving and interpreting the message from the external controlling device to apply legacy line supervision;

whereby the external controlling device provides a capability for making and receiving telephonic calls over a packet network.

4. The switching system converter of claim 3 further comprising:  
means for generating call progress aural tones applied to the legacy line under the control of a message from the external controlling device;  
means for collecting DTMF tones or dial pulses from the legacy line;  
means for interpreting the tones or pulses as digits; and  
means for sending the digital information as a message to the external controlling device;  
whereby the external controlling device controls calls without direct access to the PCM data.

5. The switching system converter of claim 1 further comprising:  
means for converting a proprietary representation of a legacy line state of the legacy line into a message sent to a packet network-based device; and  
means for receiving and interpreting the message from the packet network-based device to apply legacy line supervision, the packet network-based device providing a capability for making and receiving telephonic calls over a packet network whereby calls are set up, routed, and torn down over a local area network (LAN) or the Internet.

6. The switching system converter of claim 5 further comprising a registry means allowing a network-based device to register an identity, an address or other characteristic of the network-based device with the switching system interface.

7. A switching system interface providing conversion between time-division multiplexed digital signals and packetized digital signals used to bypass a common control and switch matrix of a class 5 digital switch, the switching system interface comprising:

at least one network interface for terminating a digital transmission facility that is part of a packet-network architecture;

at least one line/trunk interface, compatible with the internal signals used to operate a line/trunk frame of the class 5 digital switching system; and

means for converting the data between time-division multiplexed digital signals and packetized digital signals.

8. The switching system interface of claim 7 wherein the means for converting data between time-division multiplexed digital signals and packetized digital signals includes utilizing a digital signal processor.

9. The switching system interface of claim 7 further comprising:
- one or more digital signal processing means, connected to the switching means, for capturing telephone numbers dialed by subscribers connected to the line/trunk interface;
  - a memory for storing a list of telephone numbers;
  - a means for comparing the captured telephone numbers against the stored list of telephone numbers;
  - one or more data-oriented network interfaces connected to the switching means;
- whereby the switching system interface will identify dial-up internet calls placed by the subscribers to known internet service providers and divert the dial-up internet calls to the data-oriented network interfaces and prevent the dial-up internet calls from reaching the terminal of the network architecture and the terminal is relieved of the dial-up internet calls.

10. A method of combining time-division multiplexed digital signals and packetized digital signals with a switching system interface used to bypass the common control and switch matrix of a legacy class 5 digital switch, the method comprising the steps of:

accessing a first connection providing internal signals used to control line and trunk interfaces of the first digital switching system and convey data in and out of the line and trunk interfaces;

applying a switching system interface, which is compatible with the first connection providing internal signals, to the first connection, the switching system interface bypassing at least a portion of the common control and switch matrix and being compatible with a digital transmission facility within the telecommunications network; and

converting time-division multiplexed digital signals to packetized digital signals through the switching system interface.

11. The method of combining time-division multiplexed digital signals and packetized digital signals of claim 10 further comprising the steps of:

identifying dial-up internet calls dialed by subscribers connected to the line and trunk interfaces; and

diverting identified dial-up internet calls to a facility for handling internet traffic separate from the terminal.

12. The method of combining time-division multiplexed digital signals and packetized digital signals of claim 11 wherein the step of identifying dial-up internet calls includes:

providing a means within the switching system interface for capturing telephone numbers dialed by subscribers connected to the line and trunk interfaces;

providing a memory for storing within the switching system interface a list of telephone numbers of known internet service providers; and

providing a means within the switching system interface for comparing the telephone numbers dialed by the subscribers against the list in order to identify dial-up internet calls.

13. The method of combining time-division multiplexed digital signals and packetized digital signals of claim 10 further comprising the steps of connecting a digital signal processor within the telecommunications network to the second connection to enable the media gateway to communicate with the internal signals.

14. The method of combining time-division multiplexed digital signals and packetized digital signals of claim 10 wherein the step of converting time-division multiplex digital signals to packetized digital signals includes:

receiving signals originating from a line trunk frame;

extracting Pulse Code Modulation (PCM) data and signal information from these signals;

transmitting the PCM data on a timeslot;

packetizing the PCM data; and

transmitting the packetized data to an external IP address.

15. An emergency switching system with a switching system interface providing conversion between time-division multiplexed digital signals and packetized digital signals used to bypass a common control and switch matrix of a class 5 digital switch, the emergency switching system comprising:

an emergency standalone switch for controlling call control functions;  
and

means for routing a call from a first subscriber line to a second subscriber line through the emergency standalone switch;

means for converting time-division multiplexed digital signals and packetized digital signals;

whereby the emergency switching system provides emergency or local call service to a localized area previously serviced by the digital switch.

16. The emergency switching system of claim 15 further comprising a database storing a plurality of directory numbers of subscribers located within the localized area, the database providing directory numbers for call control by the emergency standalone switch for providing local or emergency call service to a subscriber serviced by the class 5 digital switch.

### **ABSTRACT OF THE DISCLOSURE**

The present invention is a switching system interface providing conversion between time-division multiplexed digital signals and packetized digital signals used to bypass a common control and switch matrix of a class 5 digital switch. The switching system interface includes a network interface for terminating a digital transmission facility that is part of a network architecture. In addition, the interface includes a line/trunk interface, compatible with the internal signals used to operate the line/trunk interface of the class 5 digital switching system and a switch, connected to the network interface and to the line/trunk interface, for routing data between network interfaces and line/trunk interface. The interface also converts the data between time-division multiplexed digital signals and packetized digital signals.

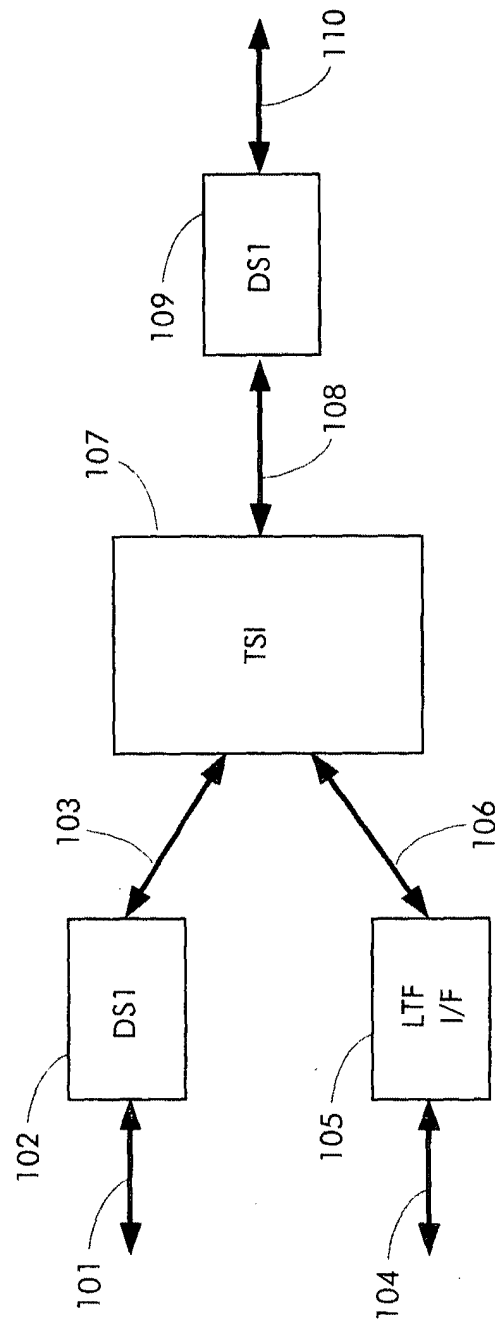


Fig. 1

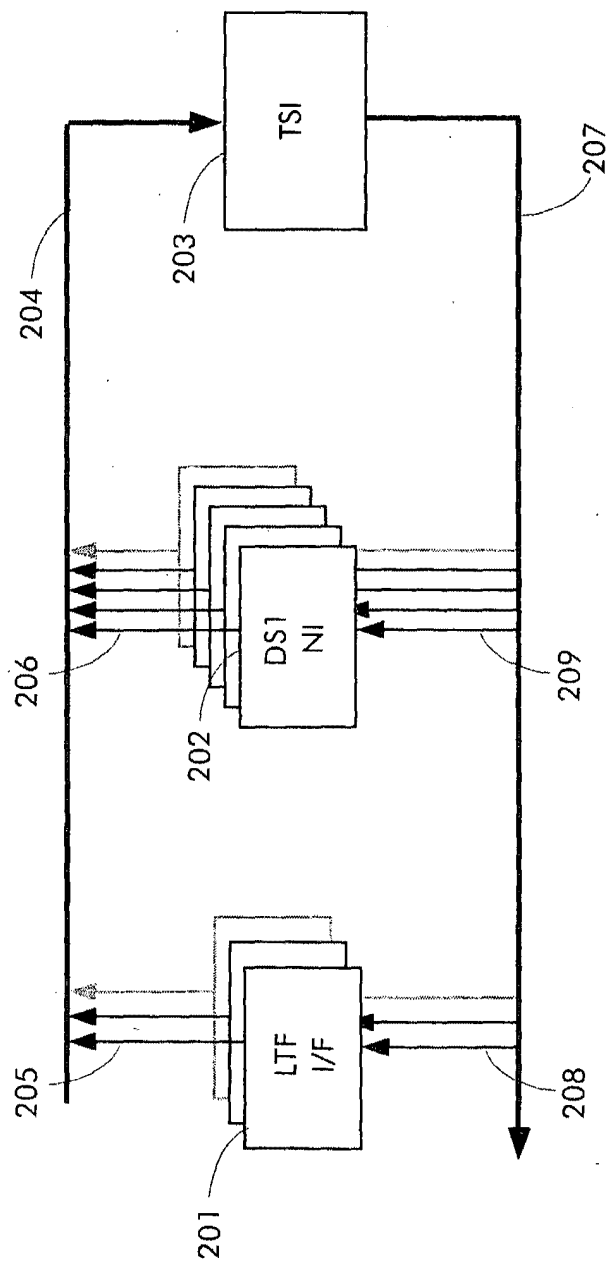


Fig. 2

Fig. 3

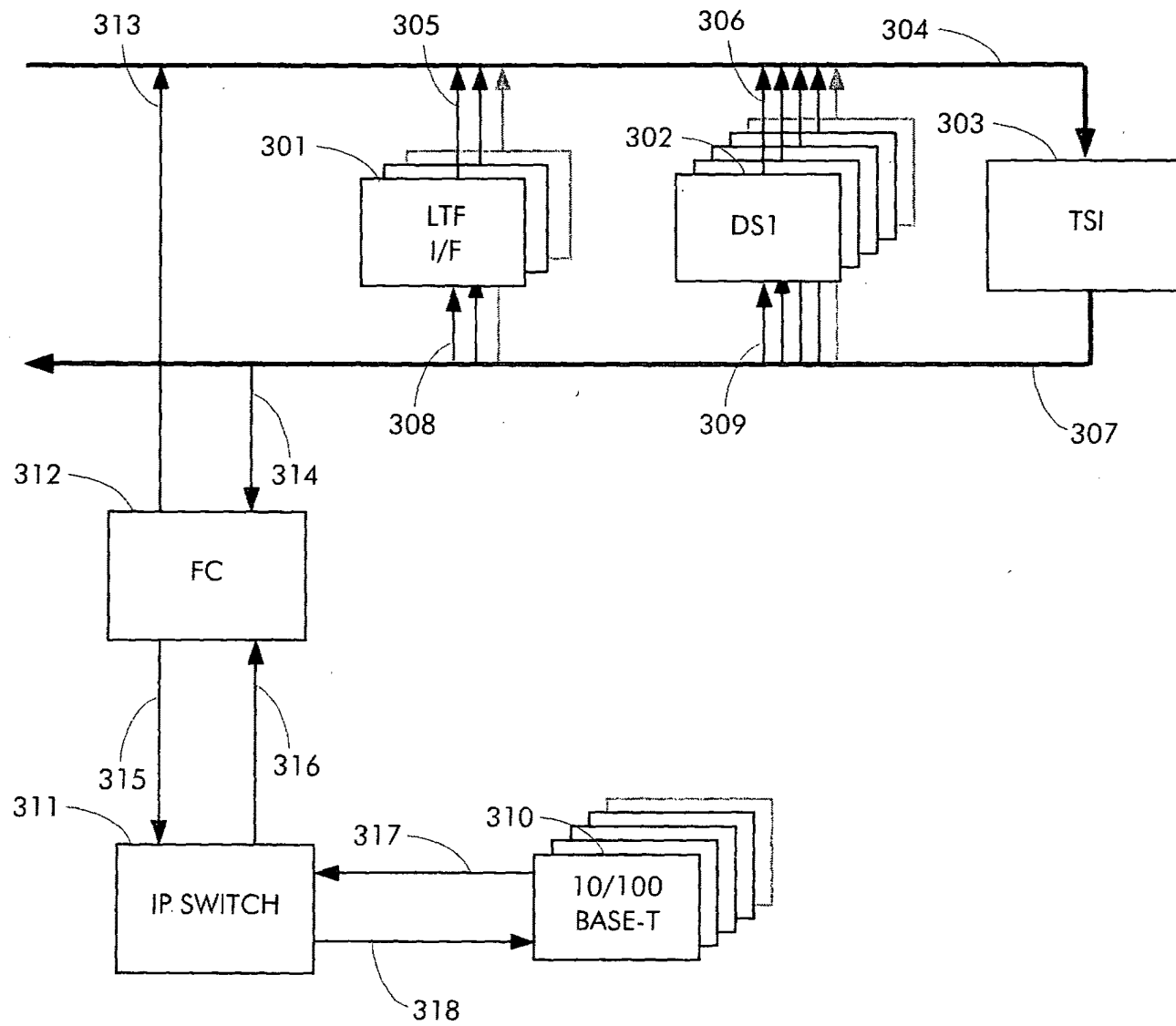


FIG. 4

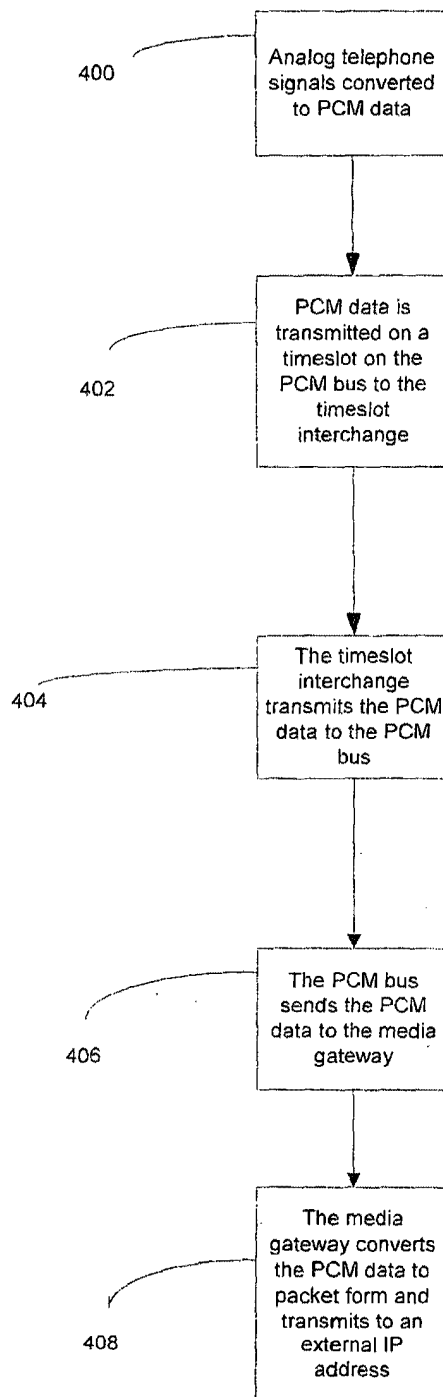
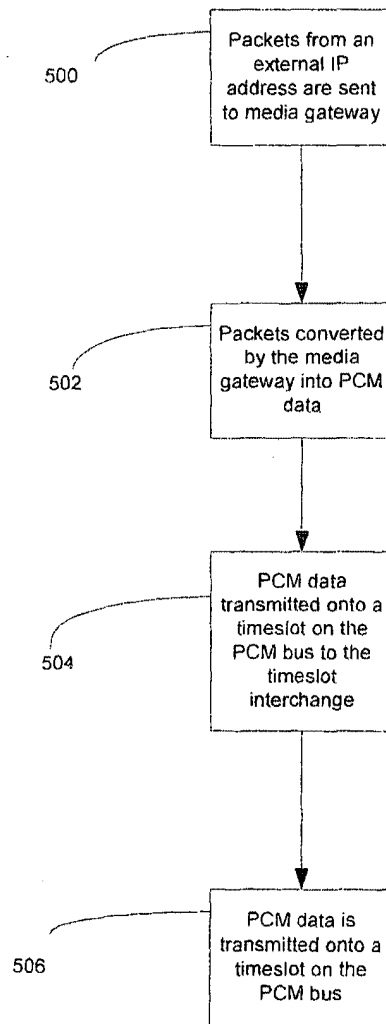


FIG. 5



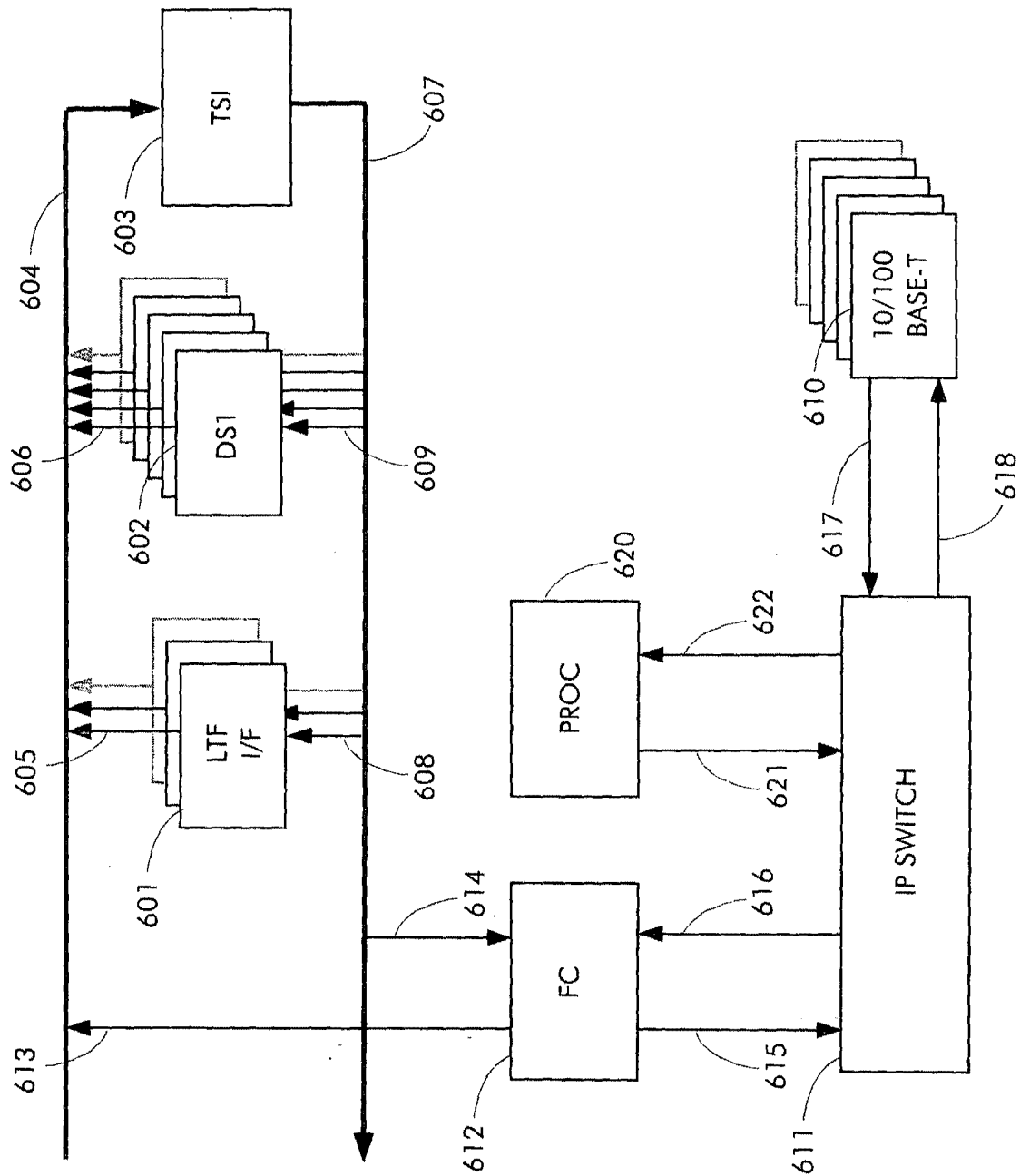


Fig. 6

**COMBINED DECLARATION AND POWER OF ATTORNEY**

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As a below named inventor, I hereby declare that:

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

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

**METHOD AND SYSTEM FOR COMBINING A CONVERSION BETWEEN TIME-DIVISION MULTIPLEXED DIGITAL SIGNALS AND PACKETIZED DIGITAL SIGNALS WITH A SWITCHING SYSTEM INTERFACE**

the specification of which:

X is attached hereto.

— was filed on \_\_\_\_\_ as Application Serial No. \_\_\_\_\_ 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 Office all information known to me to be material to the patentability of this application as defined in 37 CFR § 1.56.

I hereby claim foreign priority benefits under 35 U.S.C. § 119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of any application on which priority is claimed:

Country	Number	Date Filed	Priority Claimed
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

I hereby claim the benefit under 35 U.S.C. § 120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of 35 U.S.C. § 112, I acknowledge the duty to disclose material information as defined in 37 CFR § 1.56 which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

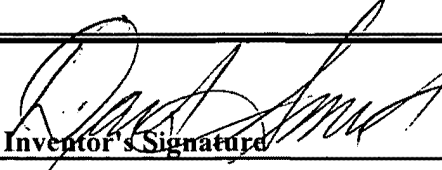
Application Serial No.	Filing Date	Status (patented, pending)
<u>6,807,273</u>	<u>Nov. 30, 2001</u>	<u>Patented</u>
<u>10/972821</u>	<u>Oct. 22, 2004</u>	<u>Pending</u>
<u>                    </u>	<u>                    </u>	<u>                    </u>
<u>                    </u>	<u>                    </u>	<u>                    </u>

I hereby appoint the following attorney to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith: MICHAEL L. DIAZ, Reg. No.40,588 of the firm of Michael L. Diaz, P.C., 555 Republic Drive, Suite 200, Plano, Texas, 75074.

Address all telephone calls and correspondence to:

Michael L. Diaz  
Michael L. Diaz, P.C.  
555 Republic Drive, Suite 200  
Plano, Texas 75074  
(972) 578-5669

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.

1	David M. Smith		8/5/05
	<b>Full Name</b>		
	929 Westbrook Drive Plano, Texas 75075 USA	United States	
	<b>Residence</b>	<b>Citizenship</b>	
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	<b>Post Office Address</b>		

PATENT APPLICATION SERIAL NO \_\_\_\_\_

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

12/01/2005 HGUTEMA1 00000031 11289179

01 FC:2011	150.00 OP
02 FC:2111	250.00 OP
03 FC:2311	100.00 OP
04 FC:2201	100.00 OP

PTO-1556

(5/87)

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

**PATENT APPLICATION FEE DETERMINATION RECORD**

Substitute for Form PTO-875 Effective December 8, 2004

Application or Docket Number

11289175

**APPLICATION AS FILED - PART I**

(Column 1)

(Column 2)

**SMALL ENTITY**

OR

**OTHER THAN  
SMALL ENTITY**

FOR	NUMBER FILED	NUMBER EXTRA
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A
SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A.
EXAMINATION FEE (37 CFR 1.16(d), (p), or (q))	N/A	N/A
TOTAL CLAIMS (37 CFR 1.16(i))	16 minus 20 =	0
INDEPENDENT CLAIMS (37 CFR 1.16(h))	4 minus 3 =	1
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).	
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))		

RATE (\$)	FEE (\$)
N/A	150.00
N/A	\$250
N/A	\$100
X\$ 25 =	
X100 =	100
+180=	
TOTAL	600

RATE (\$)	FEE (\$)
N/A	300.00
N/A	\$500
N/A	\$200
X\$50 =	
X200 =	
+360=	
TOTAL	

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

**APPLICATION AS AMENDED - PART II**

(Column 1)

(Column 2)

(Column 3)

**SMALL ENTITY**

OR

**OTHER THAN  
SMALL ENTITY**

AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
Total (37 CFR 1.16(i))	•	Minus **	=
Independent (37 CFR 1.16(h))	•	Minus ***	=
Application Size Fee (37 CFR 1.16(s))			
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))			

RATE (\$)	ADDITIONAL FEE (\$)
X\$ 25 =	
X100 =	
+180=	
TOTAL ADD'L FEE	

RATE (\$)	ADDITIONAL FEE (\$)
X\$50 =	
X200 =	
+360=	
TOTAL ADD'L FEE	

(Column 1)

(Column 2)

(Column 3)

AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
Total (37 CFR 1.16(i))	•	Minus **	=
Independent (37 CFR 1.16(h))	•	Minus ***	=
Application Size Fee (37 CFR 1.16(s))			
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))			

RATE (\$)	ADDITIONAL FEE (\$)
X\$ 25 =	
X100 =	
+180=	
TOTAL ADD'L FEE	

RATE (\$)	ADDITIONAL FEE (\$)
X\$50 =	
X200 =	
+360=	
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.