Doc. 297 Att. 3



# METHOD, SYSTEM AND APPARATUS FOR TELECOMMUNICATIONS CONTROL 

Examiner : Blum, R.

Art Unit : 2603

## AMENDMENT TRANSMITTAL LETTER AND PETITION FOR EXTENSION OF TIME

Hon. Commissioner of Patents and Trademarks
Washington D.C. 20231
Dear Sirs:
Pursuant to 37 C.F.R. $1.136(a)$, Applicants hereby petition for an extension of time to respond to the Office Action dated November 9, 1994, with the response due February 9, 1995, to extend such time for a period of 3 months to May 9,1995 . Please charge the petition fee of $\$ 870.00$ to Sprint Communications Company Deposit Account No. 21-0765. Please also charge any additional fees necessary for the filing of this paper or otherwise necessary in connection with the above-identified Application to Sprint Communications Company Deposit Account No. 21-0765. A duplicate copy of this sheet is enclosed for this purpose.

Transmitted herewith is an amendment in the above-identified application. The fee for this amendment has been calculated as shown below.

$$
\begin{array}{lllllll}
5827286 & 05 / 23 / 95 & 08238605 & 21-0765 & 270 & 117 & 870.00 \mathrm{CH}
\end{array}
$$

## FEE CALCULATION AS AMENDED

| (1) | (2) <br> CLAIMS REMAINING AFTER AMENDMENT | (3) | (4) <br> HIGHEST <br> NUMBER <br> PREVIOUSLY <br> PAID FOR | (5) <br> PRESENT EXTRA | (6) <br> RATE | (7) <br> ADDITIONAL FEE |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| TOTAL CLAIMS | * 56 | MINUS | ** 63 = | 0 | x \$22 | $=\$ 0$ |
| INDEP. | * 11 | MINUS | *** 9 = | 2 | x \$76 | $=\$ 152.00$ |
|  |  |  | PETITION FEE (Extension of Time) |  | \$870.00 |  |
|  |  |  | TOTAL ADDITIONAL FEE FOR THIS AMENDMENT ---> |  | \$1,022.00 |  |

* If the entry in Column 2 is less than the entry in Column 4, write " 0 " in Column 5.
** If the "Highest Number Previously Paid For" is less than 20, write " 20 " in this space.
*** If the "Highest Number Previously Paid For" is less than 3, write " 3 " in this space.
$\square \quad$ No additional fee is required.


Charge $\$ 1,022.00$ and any additional fees necessary for the filing of this paper and otherwise necessary in connection with the above-identified application to Sprint Communications Company's Deposit Account No. 21-0765. A duplicate copy of this sheet is enclosed.


Respectfully submitted,


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I hereby certify that this Amendment and Transmittal letter is being deposited with the United States Postal Service as First Class Mail on or before May 9, 1995 in an envelope addressed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231.
 IN the United states patent and trademark office Applicant: JOSEPH MICHAEL CHRISTIE

Serial No.: $08 / 238,605$


Filed: 05/05/94
Title: METHOD, SYSTEM AND APPARATUS FOR TELECOMMUNICATIONS CONTROL

Examiner: Blum, R.
Art Unit: 2603

## AMENDMENT

Please enter the following amendment and reconsider the above referenced application. A petition for extension of time and the appropriate fee are enclosed. A proposed correction to the drawings is enclosed in red-line format along with the appropriate fee and a separate paper directed to the draftsman. An information disclosure statement and appropriate fee will be filed in a few days and should be available when this amendment is considered.

$$
\begin{array}{llllllll}
5827287 & 05 / 23 / 95 & 08238605 & & 21-0765 & 270 & 102 & 152.00 \mathrm{CH}
\end{array}
$$

## In the Specification:

On page 11, lines 22-23, the text should read, "communications path to fourth element 134 to over sixth connection 146. CCP $\overline{120}$ would signal fourth element $134^{\prime \prime}$.

On page 11, Tine 33 should read, "transmitted and received over links, connections, or other"

On page 13, Tine 1, after "access", delete "a".
On page 14, line 13, after "or", add -- triggering and -On page 32 , line 4 , after "or", delete "a".

In the Claims:
Please cancel claims 1-63 without prejudice. Please add the following new claims 64-120.

- 64. A method for processing tel/ecommunications signals received by a telecommunications network wherein the network is comprised of at least a first switch, a second switch, and connections which are operable to form communication paths in response to the telecommunications signals, the method comprising:
receiving a first signal/into the network requesting a first communication path and receifing a second signal into the network requesting a second communication path;
routing the first/signal to a processor before the first signal causes the first shittch to trigger, and routing the second signal to the processor befofe the second signal causes the second switch to trigger, wheref the processor is located external to the first switch and the sec申nd switch;
processing the fifst signal in the processor to produce a first set of information used to establish the first communication path, and processing the second signal in the processor to produce a second set of nformation used to establish the second communication path;
producing a third signal in the processor based on the first set of information, and producing a fourth signal in the processor based on the second set of information;
transmitting/the third signal from the processor to the first switch, and transmitting the fourth signal from the processor to the second switch. --

A 65. The method of claim 64 wherein the network further includes a third switch and the method/further comprises producing a fifth signal based on the first set of information and transmitting the fifth signal to the third switch to establish the first communication path. A

A 66. The method of claim 65 wherein producing the third signal and the fifth signal comprises producing different signals.A-
A 67. The method of claim 64 wherein receiving the first signal and the second signal 4 prises receiving the first signal and the second signal in Signaling system \#7 (SS7) format. A-

A 68. The method of chain 64 wherein receiving the first signal and the second signal comprises receiving the first signal and the second signal in broadband format. A

A- 69. The method of claim 64 wherein processing the first signal in the processor comprises processing based at least in part on a point code in the first signal. $\qquad$
$f$ 70. The method of claim 64 wherein processing the first signal in the processor comprises processing based at least in part on a circuit identification code in the first signal. $\qquad$

A71. The method of claim 64 wherein processing the first signal in the processor comprises processing based at least in part on message type of the first signal. --

- 72. The method of claim 64 wherein processing the first signal in the processor comprises processing based at least in part on portions of a dialed number in the first signal.

73. The method of claim 64 wherein processing the first signal in the processor comprises processing based at least in part on set-up information in the first signal. $A$

- 74. The method of claim 64 further comprising receiving network status information into the processor and wherein processing the first signal in the prodessor comprises processing based at least in part on the network sfatus information.

A 75. The method of claim 74 wherein receiving network status information comprises feceiving information which reflects a load of a network element.

A 76. The method of claim 74 wherein receiving network status information comprises receiving network status information which reflects a status of at least one of the connections. $X$

A 77. The method of claim $7 / 4$ wherein receiving network status information comprises receiving network status information which reflects an error condition.

A- 78. The method of claiM 74 wherein receiving network status information comprises receiving network status information which reflects an alarm. A-

A 79. The method of aim 74 wherein receiving network status information comprises receiving Signaling System \#7 (SS7) information. A

A 80. The method of claim 64 further comprising receiving operational control information into the processor and wherein processing the first signal in the processor comprises processing based at least in part on the operational control information. A-A- 81. The method of claim 80 wherein receiving operational control information comprises receiving an instruction not to select a particular network element.


A-82. The method $\oint f$ claim 64 wherein producing the third signal comprises producing the third signal in Signaling System \#7 (SS7) format. A

A 83. The method of claim 64 fherein producing the third signal comprises producing the third signal in broadband format.
A 84. A method for processind telecommunications signals received by a telecommunications netwofk wherein the network is comprised of at least a first switch, a sфcond switch, and connections which are operable to form communfcation paths in response to the telecommunications signals, the method comprising:
receiving a first siqnal into the network requesting a first communication path and refeiving a second signal into the network requesting a second commpication path;
routing the first signal to a processor before the first switch applies the first signal, and routing the second signal to the processor before the second switch applies the second signal, wherein the processor is located external to the first switch and the second switch;
processing the ffrst signal in the processor to produce a first set of information used to establish the first communication path wherein the first set of information is not defined for the processor by a digital cross-connect device which is connected to the first switch and the second switch, and processing the second signal in the processor to produce a second set of information used to establish the second communication path wherein the second set of information is not defined for the processor by the digital cross-connect device
producing a third signal in the processor based on the first set of information, and producing a fourth signal in the processor based on the second sete of information;
transmitting the third signal from the processor to the first switch, and transmittifig the fourth signal from the processor to the second swiftch. A-

A- 85. A method for processing telecommunications signaling for a telecommunications network wherein the network is comprised of a plurality of network elements and connections which are operable to form a plurality of communiqation paths in response to a plurality of signals, wherein at least one network element is a switch, and wherein individual ompunication paths are established in response to at least one signal, the method comprising:
receiving the sifnals into the network;
routing the signals/ to a processor before the signals are used by the switch, whecern the processor is located external to any switch;
processing the signals in the processor to produce information used to establish the communication paths;


A-86. A method for processing telecommunications signals received by a telecommunications network wherein the network is comprised of at least one switch and connections which are operable to form communication paths in response to the telecommunications signals, the method comprising:
receiving a first sign kl into the network requesting a communication path;
routing the first sigh tel to a processor before a particular switch applies the first signal, wherein the processor is located external to any switch;
processing the first signal in the processor to select a connection used to establish the communication path;
producing a second signal in the processor reflecting on the selected connection;
transmitting the second signal from the processor to the particular switch. A=

K-87. The method of claim 86 wherein selecting the connection comprises selecting a physical connection. A-

A-88. The method of claim 86 wherein selecting the connection comprises selecting a logical connection. t

A-89. A method for processing/telecommunications signals received by a telecommunications network/ wherein the network is comprised of at least one switch and connections which are operable to form communication paths in response to the telecommunications signals, the method comprising:
receiving a first signal into the network requesting a communication path;
routing the first signal to a processor before a particular switch applies the first signal, wherein the processor is located external to any switch;
processing the fret signal in the processor to select a network element to extend the communication path to;
producing a second signal in the processor reflecting on the selected network element:
transmitting the second signal from the processor the particular switch.
(-- 90. The method of claim 89 wherein selecting the network element comprises selecting a switch. $A^{-}$
t-91. The method of claim 89 wherein selecting the network element comprises selecting a server. A-

A-92. The method of claim 89 wherein selecting the network element comprises selecting an enhanced platform. t-

K-93. The method of claim 89 wherein selecting the network element comprises selecting a service node. $\qquad$

A- 94. A processor external to any switch for processing telecommunications signaling wherein the processor is operable to receive signaling in a format dentical to signaling received by a switch and process the received signaling to produce information used to establish communication paths, and to generate and transmit new signaling based on th € information to a plurality of signaling points. ft


A- 95. A processor external to any switch for processing telecommunications signaling wherein the processor is operable to receive signaling in a format identical to signaling received by a switch and process the received signaling to select connections used to establish communication paths, and to generate and transmit new signaling reflecting the selected connections to at least one signaling point. A

A 96. A processor external to any switch for processing telecommunications signaling wherein the processor is operable to receive signaling in a format identical to signaling received by a switch and process the received signaling to select network elements to establish communication paths to, and to generate and


A97. A telecommunications network wherein the network comprises:
a plurality of network elements wherein a plurality of the network elements are switches and wherein a plurality of the network elements include signaling points;
a plurality of connections between the network elements wherein the network elements and connections are operable to form a plurality of communication paths through the network in response to signaling;
a processor locafed/externally to the switches, wherein the processor is operable t 0 receive a plurality of signals each requesting a communidation path before the switches have applied signaling associated with the requested communication path, to process the signals and produce information used to establish the communication paths, and to generate new signaling reflecting the information;
a plurality of links between the processor and the signaling points operable to/ transmit the new signaling to the signaling points.

98. The network of claim 97 wherein the network is an interexchange carrier. A

A 99. The network of claim 97 wherein the network is a local exchange carrier. $A$

A-100. The network of claim /97 wherein the network is a connection-oriented network. A

A-101. The network of claim 97 wherein the network is an international gateway. A-

A-102. The network of claim 97 wherein the network is a satellite network.


A-103. The network of fipim 97 wherein the network is a wireless network.

- 104. The network Claim 97 wherein at least one of the switches is a broadband switch. A

A-- 105. The network of claim 97 wherein at least one of the switches is a narrowband switch. $\qquad$

A-106. The network of claim 97 wherein at least one of the switches is an asynchronous transfer mode switch. $\qquad$

- 107. The network of claim 97 wherein at least one of the switches is a packet switch. $A$

108. The network of claim 97 wherein at least one of the network elements is a server. 4
f 109. The network of claim 97 wherein at least one of the network elements is an asynchronous transfer mode multiplexer. A-

A-110. The network of claim 97 Wherein a portion of the signaling is in Signaling System \# 7 format. $\qquad$

* 111. The network of claim 97 wherein a portion of the signaling is in broadband format.

A-112. A telecommunications signaling system for use with a telecommunications network the signaling system comprising:
a plurality of signaling points;
a signaling processor wherein the signaling processor does not reside in a switch and fo operational to receive signals that enter the network requesting a communications path, to process the signals and produce information used to establish communication paths, and to generate new signaling information based on the information;
a plurality of signaling links connected to the signaling points and the signaling processor wherein the signaling links are operable to transmit the new signaling from the signaling processor to the signaling points. $A$

A 113. The signaling system of claim 112 wherein the new signaling is comprised of different signaling messages and wherein the different signaling messages are transmitted to different signaling points. $A$
114. The signaling system of claim 112 wherein the signaling processor is operational to direct switching matrixes of multiple switches by transmitting. the new signaling to multiple signaling points. $A$

A 115. The signaling system of claim 112 wherein the signaling processor is operational to signal multiple signaling points in response to receiving signaling from a single source. A-
116. The signaling system of claim 112 wherein the signaling processor is operational to signal a signaling point in response to receiving signaling from multiple sources.

A 117. A method for controlling communications in a telecommunications network which comprises at least a first switch and a second switch both operable to receive and extend communication paths in response to signaling, the method comprising:
receiving a communication path at the first switch;
receiving a first signal associated with the communication path into a processor before the first signal is processed by the first switch and before the signal is processed by the second switch, wherein the processor is external to the first switch and the second switch;
processing the firft/signal in the processor to produce a first set of information for use by the first switch to extend the communication path and to produce a second set of information for use by the second swifch to extend the communication path;
producing a second signal based on the first set information and a third signal based on the second set of information;
transmitting/the second signal to the first switch and the third signal to the second switch;
extending the communications path from the first switch to the second switch according to the information in the second signal and extending the communications path from the second switch according to the information in the third signal. A

A-118. The method of claim 117 wherein the first switch and the second switch are different switch types. t-

A 119. The method of claim 117 wherein the first switch and the second switch are provided by different manufacturers. f-
120. The method of claim 117 wherein the first switch is a broadband switch and the second switch is a narrowband switch. f

## Remarks:

Claims 1-63 have been canceled without prejudice. New claims 64-120 have been added which correspond to the canceled claims. The new claims are of the same general scope in subject matter and terminology as the canceled claims. Applicant submits that no new matter has been added.

The term "trigger" is now used in the claims and has been added to the specification. Applicant respectfully submits that these additions do not constitute new matter because the specification inherently refers to a trigger situation when it discusses a switch query to an SCP. Those skilled in the art would readily understand that this situation included a trigger. In addition, those skilled in the art are well aware of the meaning of the term trigger. A trigger occurs when a switch recognizes a defined condition, and takes some action as a result. For example,
cited references do not suggest any method for interworking differently manufactured switches by controlling the signaling.

Claim 120 is dependent on 117 and recites in part that one switch is a broadband switch and another switch is a narrowband switch. The cited references do not suggest any method for interworking a broadband switch with a narrowband switch by controlling the signaling.

Applicant respectfully submits that claims $64-120$ are in condition for allowance and are patentable over the cited references. Applicant requests allowance of claims 64-120.

Please charge any additional fees for the filing of this paper or otherwise in connection with the above identified application to Sprint Communications Communications Company Deposits Account No. 21-0765.

Respectfully submitted,

Date:

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