

# EXHIBIT L

Sprint Patents Having the Same Specification as the '780 Patent

| Number | Publication Number | Title   | Application Date | Priority Date                    | Examiner - Primary | First or Exemplary Claim   |
|--------|--------------------|---|------------------|----------------------------------|--------------------|--|
| 1      | US5825780          | Method, system and apparatus for telecommunications control | 12/7/1995        | 1995-12-07 1994-05-05            | Patel; Ajit        | <p>What is claimed is:□</p> <p>1. A method for processing telecommunications signaling that comprises:□<br/> receiving a telecommunications signaling message from a telecommunications user into a signaling processor that is located externally to any network elements that are switches;□<br/> processing the telecommunications signaling message in the signaling processor to select at least one characteristic for a communications path for the telecommunications user;□<br/> generating a new telecommunications signaling message in the signaling processor that is based at least in part on the at least one selected characteristic; and□<br/> transmitting the new telecommunications signaling message to one of the network elements on the communications path wherein the one network element has not received and did not generate the telecommunications signaling message received into the signaling processor.□</p>  |
| 2      | US6104718          | Method, system and apparatus for telecommunications control | 5/20/1998        | 1998-05-20 1995-12-07 1994-05-05 | Patel; Ajit        | <p>What is claimed is:□</p> <p>1. A method for handling communications, the method comprising:□<br/> (a) receiving the communications into a first device;□<br/> (b) receiving information related to the communications into a first processor that is external to the first device;□<br/> (c) processing the information in the first processor to generate a first message and transmitting the first message from the first processor, wherein the first message is configured to cause the first device to transfer the communications to a second device;□<br/> (d) processing the information in the first processor to generate a second message and transmitting the second message from the first processor;□<br/> (e) receiving the second message into a second processor that is external to the second device;□<br/> (f) processing the second message in the second processor to generate a third message and transmitting the third message from the second processor, wherein the third message is configured to cause the second device to transfer the communications;□<br/> (g) receiving the first message into the first device and transferring the information to the second device; and□<br/> (h) receiving the communications and the third message into the second device and transferring the communications.□</p> |
| 3      | US6108341          | Method, system and apparatus for telecommunications control | 5/20/1998        | 1998-05-20 1995-12-07 1994-05-05 | Patel; Ajit        | <p>1. A telecommunications network that comprises:□<br/> a plurality of devices wherein a plurality of the devices are switches;□<br/> a processor that communicates with the switches only through telecommunications signaling, wherein the processor is operational to receive telecommunications signaling messages from outside of the telecommunications network, process the telecommunications signaling messages to select characteristics for communications paths for telecommunications network users, and generate and transmit new telecommunications signaling messages that are based at least in part on the selected characteristics;□<br/> a plurality of links between the processor and the devices wherein the plurality of links are operational to transmit the new signaling messages from the processor to the devices and wherein the devices do not receive the signaling messages from outside of the telecommunications network; and□<br/> a plurality of connections between the devices wherein the devices and connections are operational to form the communications paths for the telecommunications network users in response to the new telecommunications signaling messages.□</p>   |
| 4      | US6185219          | Method, system and apparatus for telecommunications control | 5/20/1998        | 1998-05-20 1995-12-07 1994-05-05 | Patel; Ajit        | <p>What is claimed is:□</p> <p>1. A method for processing messages for a call, the method comprising:□<br/> (a) receiving a set-up message for the call into a processor, wherein the processor is external to devices on a communications path for the call;□<br/> (b) processing the set-up message in the processor to select at least one characteristic for the communications path for the call;□<br/> (c) generating a first instruction message in the processor that incorporates the selected characteristic;□<br/> (d) transmitting the first instruction message from the processor for at least one of the devices on the communications path;□<br/> (e) receiving a release message for the call into the processor;□<br/> (f) processing the release message in the processor to generate a second instruction message for the call; and□<br/> (g) transmitting the second instruction message from the processor for the device on the communications path.□</p>   |

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|--------|--------------------|---|------------------|----------------------------------|--------------------|---|
| 5      | US6192052          | Method system and apparatus for telecommunications control  | 5/20/1998        | 1998-05-20 1995-12-07 1994-05-05 | Patel; Ajit        | <p>What is claimed is:□</p> <p>1. A communications system for extending a communications path for a call, wherein the system comprises:□<br/>                     a processor that is operational to receive signaling related to the call, to process the signaling to select a first characteristic for the communications path, to generate a first message that incorporates the first characteristic, and to transmit the first message from the processor;□<br/>                     an Asynchronous Transfer Mode (ATM) switch that is operational to receive the communications path, to receive the first message, and to extend the communications path in response to the first message;□<br/>                     an ATM multiplexer that is operational to receive the communications path and to extend the communications path to the ATM switch;□<br/>                     an ATM connection for the the communications path between the ATM multiplexer and the ATM switch; and□<br/>                     a link between the processor and the ATM switch operational to transfer the first message.□</p>  |
| 6      | US6201812          | Method system and apparatus for telecommunications control  | 5/20/1998        | 1998-05-20 1995-12-07 1994-05-05 | Patel; Ajit        | <p>What is claimed is:□</p> <p>1. A method for operating a signaling system for a communications network wherein the signaling system includes a processing system and a Service Control Point (SCP) and wherein the network is comprised of at least a first network element on a communications path, wherein the method comprises:□<br/>                     (a) receiving a first signaling message from outside of the communications network into the signaling system and routing the first signaling message to the processing system, wherein the processing system does not comprise a control processor in a switch;□<br/>                     (b) receiving the first signaling message into the processing system and processing the first signaling message to generate and transmit a query message to the SCP;□<br/>                     (c) receiving the query message into the SCP and processing the query message to generate information related to the communications path;□<br/>                     (d) generating a response message in the SCP incorporating the information and transmitting the response message to the processing system;□<br/>                     (e) receiving the response message into the processing system and processing the response message to select at least one characteristic for the communications path;□</p> |
| 7      | US6208660          | Method, system and apparatus for telecommunications control | 5/20/1998        | 1998-05-20 1995-12-07 1994-05-05 | Patel; Ajit        | <p>1. A method of extending a communications path in a communications system in response to signaling, wherein the communications system is comprised of a processor, an Asynchronous Transfer Mode (ATM) multiplexer, and an ATM switch, wherein the method comprises:□<br/>                     (a) receiving the signaling into the processor;□<br/>                     (b) processing the signaling in the processor to select a first characteristic and a second characteristic for the communications path;□<br/>                     (c) generating a first message and a second message in the processor wherein the first message incorporates the first characteristic and the second message incorporates the second characteristic;□<br/>                     (d) transmitting the first message and the second message from the processor;□<br/>                     (e) receiving the communications path and the first message into the ATM multiplexer;□<br/>                     (f) extending the communications path from the ATM multiplexer to the ATM switch in response to the first message;□<br/>                     (g) receiving the communications path and the second message into the ATM switch; and□<br/>                     (h) extending the communications path from the ATM switch in response to the second message.□</p>          |
| 8      | US6212193          | Method, system and apparatus for telecommunications control | 5/20/1998        | 1998-05-20 1995-12-07 1994-05-05 | Patel; Ajit        | <p>What is claimed is:□</p> <p>1. A method for extending a communications path from a first network to a second network, wherein the method comprises:□<br/>                     in a first device in the first network, selecting a connection for extending the communications path from the first device to a second device in the second network;□<br/>                     in the first device, generating a first message that identifies the connection;□<br/>                     transmitting the first message to a processor, wherein the processor is external to the first device and the second device;□<br/>                     receiving the first message into the processor and generating a second message, wherein the second message identifies the connection;□<br/>                     transmitting the second message from the processor to the second device in the second network; and□<br/>                     extending the communications path over the connection from the first device in the first network to the second device in the second network.□</p>  |

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|--------|--------------------|---|------------------|----------------------------------|--------------------|--|
| 9      | US6304572          | Method, system and apparatus for telecommunications control | 5/20/1998        | 1998-05-20 1995-12-07 1994-05-05 | Patel; Ajit        | <p>What is claimed is:□</p> <p>1. A method for processing telecommunications signaling that comprises:□</p> <p>(a) receiving in-band telecommunications signaling into a first telecommunications device coupled to a first connection;□</p> <p>(b) in the first telecommunications device, converting the in-band telecommunications signaling to an out-of-band telecommunications signaling message;□</p> <p>(c) routing the out-of-band telecommunications signaling message from the first telecommunications device to a processor that is external to the first telecommunications device and a second communication device;□</p> <p>(d) processing the out-of-band telecommunications signaling message in the processor to select a second connection coupled to the first telecommunications device and to the second telecommunications device;□</p> <p>(e) generating a first control message and a second control message indicating the second connection;□</p> <p>(f) transmitting the first control message from the processor to the first telecommunications device and transmitting the second control message from the processor to the second telecommunications device; and□</p>   |
| 10     | US6366586          | Method, system and apparatus for telecommunications control | 5/20/1998        | 1998-05-20 1995-12-07 1994-05-05 | Patel; Ajit        | <p>What is claimed is:□</p> <p>1. A method of operating a processing system to control a packet communication system for a user communication, the method comprising:□</p> <p>receiving a signaling message for the user communication from a narrowband communication system into a signaling processing system;□</p> <p>processing the signaling message in the signaling processing system to generate a query message;□</p> <p>transferring the query message from the signaling processing system to a service processing system;□</p> <p>processing the query message in the service processing system to select a network code that identifies a network element to provide egress from the packet communication system for the user communication and to generate a response message indicating the network code;□</p> <p>transferring the response message indicating the network code from the service processing system to the signaling processing system;□</p> <p>processing the response message in the signaling processing system to generate a control message indicating the network code; and□</p> <p>transferring the control message indicating the network code from the signaling processing system to the packet communication</p> |
| 11     | US6424652          | Method, system and apparatus for telecommunications control | 5/20/1998        | 1998-05-20 1995-12-07 1994-05-05 | Patel; Ajit        | <p>What is claimed is:□</p> <p>1. A method of processing telecommunications signaling for a telecommunication network that includes a first network element, a second network element, and a plurality of connections between the first network element and the second network element, the method comprising:□</p> <p>receiving a Signaling System #7 signaling message into a processing system that is external to any telecommunication switches;□</p> <p>in the processing system, processing the Signaling System #7 signaling message to select one of the connections between the first network element and the second network element;□</p> <p>in the processing system, generating a first control message indicating the selected connection between the first network element and the second network element;□</p> <p>in the processing system, generating a second control message indicating the selected connection between the first network element and the second network element;□</p> <p>transferring the first control message from the processing system for the first network element before the first network element has applied the Signaling System #7 signaling message; and□</p>  |
| 12     | US6463052          | Method, system and apparatus for telecommunications control | 5/20/1998        | 1998-05-20 1995-12-07 1994-05-05 | Patel; Ajit        | <p>What is claimed is:□</p> <p>1. A method of transferring a user communication to a packet communication system, the method comprising:□</p> <p>receiving the user communication into a device;□</p> <p>receiving signaling formatted for a narrowband system into a processing system;□</p> <p>in the processing system, processing the signaling to select a network code that identifies a network element to provide egress for the user communication from the packet communication system;□</p> <p>transferring an instruction indicating the network code from the processing system to the device; and□</p> <p>transferring a packet including the network code and the user communication from the device to the packet communication system in response to the instruction.□</p>  |

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|--------|--------------------|---|------------------|--|--------------------|--|
| 13     | US6643282          | Method, system and apparatus for telecommunications control | 5/20/1998        | 1998-05-20 1995-12-07 1994-05-05                       | Patel; Ajit        | <p>What is claimed is:□</p> <p>1. A communication network comprising:□<br/>                     a packet communication system configured to receive a user communication;□<br/>                     a call processor configured to process a signaling message from a narrowband communication system to select a network code that identifies a network element to provide egress from the packet communication system for the user communication;□<br/>                     an interface configured to receive the signaling message for the user communication from the narrowband communication system and transfer a control message indicating the network code to the packet communication system; and wherein□<br/>                     the packet communication system is configured to use the network code to route the user communication through the packet communication system to the network element wherein the network element transfers the user communication to provide egress from the packet communication system.□</p>   |
| 14     | US6452932          | Method, system and apparatus for telecommunications control | 2/7/2000         | 2000-02-07 1998-05-20 1995-12-07 1994-05-05            | Patel; Ajit        | <p>What is claimed is:□</p> <p>1. A method for handling a call having a first message and communications, the method comprising:□<br/>                     receiving and processing the first message in a processing system external to narrowband switches to select one of the narrowband switches;□<br/>                     generating a second message in the processing system based on the selected narrowband switch and transmitting the second message from the processing system; and□<br/>                     receiving the second message and the communications in an asynchronous communication system and transferring the communications to the selected narrowband switch in response to the second message.□</p>  |
| 15     | US6633561          | Method, system and apparatus for telecommunications control | 11/14/2001       | 2001-11-14 1998-05-20 1995-12-07 1994-05-05            | Patel; Ajit        | <p>What is claimed is:□</p> <p>1. A method of operating a processing system to control a packet communication system for a user communication, the method comprising:□<br/>                     receiving a signaling message for the user communication from a narrowband communication system into the processing system;□<br/>                     processing the signaling message to select a network code that identifies a network element to provide egress from the packet communication system for the user communication;□<br/>                     generating a control message indicating the network code;□<br/>                     transferring the control message from the processing system to the packet communication system□<br/>                     receiving the user communication in the packet communication system and using the network code to route the user communication through the packet communication system to the network element; and□<br/>                     transferring the user communication from the network element to provide egress from the packet communication system.□</p> |
| 16     | US2004037328A1     | Method system and apparatus for telecommunications control  | 8/4/2003         | 2003-08-04 1998-05-20 1995-12-07 1994-05-05            |                    | <p>What is claimed:□</p> <p>&lt;b&gt;1&lt;/b&gt;. A communication network comprising: &lt;claim-text&gt;a processing system configured to process one of a Signaling System #7 (SS7) signaling message and a Q.931 signaling message for a call to select packet routing information for the call and to transfer a control message indicating packet routing information; and &lt;/claim-text&gt; &lt;claim-text&gt;a communication system configured to receive a user communication for the call and the control message, and in response, convert the user communication into a packet format including the packet routing information selected by the processing system and transfer the user communication in the packet format to a packet system that routes the user communication based on the packet routing information selected by the processing system. &lt;/claim-text&gt;□</p>  |
| 17     | US2007076753A1     | METHOD, SYSTEM AND APPARATUS FOR TELECOMMUNICATIONS CONTROL | 11/17/2006       | 2006-11-17 2003-08-04 1998-05-20 1995-12-07 1994-05-05 |                    | <p>&lt;b&gt;1&lt;/b&gt;. A method of operating a telecommunication system, the method comprising: &lt;p&gt;receiving first signaling from customer premises equipment into a communication control processor; &lt;/p&gt; &lt;p&gt;processing the first signaling in the communication control processor to select an address of a network element; &lt;/p&gt; &lt;p&gt;transferring second signaling indicating the address from the communication control processor; &lt;/p&gt; &lt;p&gt;transferring third signaling from the communication control processor to a narrowband network; &lt;/p&gt; &lt;p&gt;receiving a voice communication from the customer premises equipment into a broadband network; &lt;/p&gt; &lt;p&gt;transferring the voice communication in the broadband network to the network element; and &lt;/p&gt; &lt;p&gt;transferring the voice communication from the network element to the narrowband network. &lt;/p&gt;□</p>   |



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|--------|--------------------|-------------------------------------|------------------|---|------------------|--|
| 1      | US6081525          | Broadband telecommunications system | 2/2/1996         | 1996-02-02 1995-09-08                       | Hsu; Alpus H.    | <p>We claim:</p> <p>1. A method of operating a telecommunications system to provide a call with a virtual connection wherein a user places the call by transmitting user information to the telecommunications system over a particular connection for the call and by sending signaling for the call to the telecommunications system, wherein the system comprises an ATM interworking multiplexer and a signaling processor coupled to the ATM interworking multiplexer, the method comprising: <input type="checkbox"/> receiving the signaling for the call into the signaling processor; <input type="checkbox"/> processing the signaling for the call in the signaling processor to select the virtual connection; <input type="checkbox"/> generating a control message in the signaling processor to identify the particular connection and the selected virtual connection; <input type="checkbox"/> transmitting the control message to the ATM interworking multiplexer; <input type="checkbox"/> receiving the user information for the call from the particular connection into the ATM interworking multiplexer; <input type="checkbox"/> converting the user information from the particular connection into ATM cells that identify the selected virtual connection in the ATM interworking multiplexer in response to the control message; and <input type="checkbox"/></p> |
| 2      | US6631133          | Broadband telecommunications system | 2/4/2000         | 2000-02-04 1996-02-02 1995-09-08 1994-05-05 | Hsu; Alpus H.    | <p>We claim:</p> <p>1. A communication method for a call comprising: <input type="checkbox"/> receiving set-up signaling associated with the call into a processing system, wherein receiving the set-up signaling comprises receiving a called number; <input type="checkbox"/> processing the set-up signaling in the processing system to select an identifier, wherein processing the set-up signaling to select the identifier comprises processing the called number to select the identifier; <input type="checkbox"/> generating a message containing the identifier; <input type="checkbox"/> transmitting the message from the processing system; <input type="checkbox"/> receiving the message and a user communication associated with the call into an interworking unit; <input type="checkbox"/> in the interworking unit, converting the user communication from a first communication format to a second communication format including the identifier in response to the message; and <input type="checkbox"/> transferring the user communication in the second communication format including the identifier from the interworking unit. <input type="checkbox"/></p>   |
| 3      | US5991301          | Broadband telecommunications system | 9/8/1995         | 1995-09-08 1994-05-05                       | Patel; Ajit      | <p>I claim:</p> <p>1. A method of operating a telecommunications system to provide a call with a virtual connection wherein a user places the call by sending signaling for the call to the telecommunications system and by transmitting user information to the telecommunications system over a particular connection for the call, wherein the system comprises an ATM interworking multiplexer and a signaling processor linked to the ATM interworking multiplexer, the method comprising: <input type="checkbox"/> receiving the signaling for the call into the signaling processor; <input type="checkbox"/> processing the signaling for the call in the signaling processor to select the virtual connection; <input type="checkbox"/> generating new signaling in the signaling processor to identify the particular connection and the selected virtual connection; <input type="checkbox"/> transmitting the new signaling to the ATM interworking multiplexer; <input type="checkbox"/> receiving the user information for the call from the particular connection into the ATM interworking multiplexer; <input type="checkbox"/> converting the user information from the particular connection into ATM cells that identify the selected virtual connection in the ATM interworking multiplexer in response to the new signaling; and <input type="checkbox"/></p>           |
| 4      | US6473429          | Broadband telecommunications system | 7/15/1999        | 1999-07-15 1995-09-08 1994-05-05            | Patel; Ajit      | <p>I claim:</p> <p>1. A communication method comprising: <input type="checkbox"/> receiving information associated with a user communication into a processing system; <input type="checkbox"/> processing the information in the processing system to select an identifier; <input type="checkbox"/> generating a message containing the identifier; <input type="checkbox"/> transmitting the message from the processing system; <input type="checkbox"/> receiving the message into an interworking unit; <input type="checkbox"/> receiving the user communication into the interworking unit from a DS0 connection; <input type="checkbox"/> in the interworking unit, converting the user communication into an asynchronous communication with the identifier in a header in response to the message; and <input type="checkbox"/> transferring the asynchronous communication from the interworking unit. <input type="checkbox"/></p>  |

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|--------|--------------------|-------------------------------------|------------------|---|------------------|--|
| 5      | US6343084          | Broadband telecommunications system | 11/12/1999       | 1999-11-12 1995-09-08 1994-05-05            | Patel; Ajit      | <p>I claim:<br/>                     1. A method of operating an interworking unit to handle a plurality of calls, the method comprising:<br/>                     receiving messages into the interworking unit on a call-by-call basis where each one of the messages indicates one of a plurality of synchronous connections and a corresponding one of a plurality of identifiers;<br/>                     receiving user communications for the calls from the synchronous connections indicated in the messages into the interworking unit;<br/>                     in response to the messages, converting the user communications from the synchronous connections into asynchronous communications including the corresponding identifiers; and<br/>                     transferring the asynchronous communications from the interworking unit for subsequent routing based on the identifiers.</p>   |
| 6      | US6449280          | Broadband telecommunications system | 11/12/1999       | 1999-11-12 1995-09-08 1995-12-07 1994-05-05 | Patel; Ajit      | <p>I claim:<br/>                     1. A communication method comprising:<br/>                     receiving signaling including a called number associated with a user communication into a processing system;<br/>                     processing the signaling in the processing system to generate and transmit a Service Control Point (SCP) query;<br/>                     receiving the SCP query into an SCP;<br/>                     processing the SCP query in the SCP to generate and transmit an SCP response;<br/>                     receiving the SCP response into the processing system;<br/>                     processing the SCP response in the processing system to translate the called number and select an asynchronous virtual identifier for the user communication;<br/>                     generating and transmitting a control instruction including the asynchronous virtual identifier out of the processing system; and<br/>                     receiving the control instruction and the user communication in an interworking unit and adding the asynchronous virtual identifier to the user communication in the interworking unit for use in routing the user communication by a routing system.</p>                |
| 7      | US6452928          | Broadband telecommunications system | 11/12/1999       | 1999-11-12 1995-09-08 1994-05-05            | Patel; Ajit      | <p>I claim:<br/>                     1. An Asynchronous Transfer Mode (ATM) communication method comprising:<br/>                     receiving signaling associated with a user communication into a processing system;<br/>                     processing the signaling in the processing system to generate and transmit instructions indicating a virtual identifier and echo cancellation requirements;<br/>                     receiving the instructions and the user communication into an ATM interworking multiplexer;<br/>                     in the ATM interworking multiplexer, canceling echo from the user communication in response to the instructions and converting the user communication into ATM cells with the virtual identifier in response to the instructions; and<br/>                     transferring the ATM cells from the ATM interworking multiplexer.</p>   |
| 8      | US6563828          | Broadband telecommunications system | 11/12/1999       | 1999-11-12 1995-09-08 1994-05-05            | Patel; Ajit      | <p>I claim:<br/>                     1. A communication method comprising:<br/>                     receiving signaling associated with a call into a processing system;<br/>                     processing the signaling in the processing system to generate a first message identifying a first connection and an identifier, a second message identifying a second connection, and additional signaling associated with the second connection;<br/>                     transmitting the first message, the second message, and the additional signaling from the processing system and receiving the first message into a first interworking unit and receiving the second message into a second interworking unit;<br/>                     receiving user communications associated with the call from the first connection into the first interworking unit;<br/>                     in the first interworking unit, converting the user communications from the first connection into asynchronous communications with the identifier in response to the first message;<br/>                     transferring the asynchronous communications from the first interworking unit and receiving the asynchronous communications into a routing system;</p> |

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| 9      | US6298064          | Broadband telecommunications system | 2/15/2000        | 2000-02-15 1999-07-15 1995-09-08 1994-05-05 | Patel; Ajit      | I claim:<br>1. A communication method for a call comprising:<br>receiving set-up signaling associated with the call into a processing system;<br>processing the set-up signaling in the processing system to select a DS0 connection;<br>generating a message identifying the DS0 connection;<br>transmitting the message from the processing system;<br>receiving the message and an asynchronous communication associated with the call into an interworking unit;<br>in the interworking unit, converting the asynchronous communication into a user communication; and<br>transferring the user communication from the interworking unit to the DS0 connection in response to the message.  |
| 10     | US6665294          | Broadband telecommunications system | 8/5/2002         | 2002-08-05 1999-11-12 1995-09-08 1994-05-05 | Patel; Ajit      | I claim:<br>1. A telecommunication signal embodied in a tangible medium, the telecommunication signal comprising:<br>a first signal component including user information from a narrowband communication signal; and<br>a second signal component including an identifier for routing the user information, wherein the identifier is selected by processing a signaling message, wherein an interworking device receives the narrowband communication signal and a control signal indicating the narrowband communication signal and the identifier, and in response to the control signal, converts the narrowband communication signal into a packet format having the first signal component including the user information and the second signal component including the identifier to form the telecommunication signal.  |
| 11     | US6931008          | Broadband telecommunications system | 10/1/2002        | 2002-10-01 2000-02-04 1996-11-22            | Pham; Chi        | message and a user communication to transfer a second signaling message and the user communication: <p>an interworking system coupled to the narrowband system and configured to interwork between the user communication including a first header identifier and the user communication received by the narrowband system, and to interwork between the user communication transferred by the narrowband system and the user communication including a second header identifier;</p> <p>a broadband system coupled to the interworking system and configured to route the user communication including the first header identifier to the interworking system based on the first header identifier, and to route the user communication including the second header identifier from the interworking system based on the second header identifier;</p> <p>a processing system configured to receive and process the second signaling message from the narrowband system to transfer a control message to the interworking system indicating the second header identifier; and</p>  |
| 12     | US6115380          | Broadband telecommunications system | 11/22/1996       | 11/22/1996                                  | Rao; Seema S.    | We claim:<br>1. A telecommunications system for providing a service for a call, wherein the telecommunications system comprises:<br>a signaling processor that is operational to receive and process a first telecommunications signaling message for the call and to provide a first control message, a second control message, and a second telecommunications signaling message for the call;<br>a first ATM interworking multiplexer that is linked to the signaling processor and that is operational to receive narrowband traffic for the call over a first narrowband connection, to convert the narrowband traffic from the first narrowband connection into ATM cells that identify a first virtual connection based on the first control message, and to transmit the ATM cells over the first virtual connection;<br>an ATM cross-connect system that is connected to the first ATM interworking multiplexer and that is operational to receive the ATM cells from the first ATM interworking multiplexer over the first virtual connection and to route the ATM cells from the first virtual connection based on the first virtual connection identified in the ATM cells;<br>a second ATM interworking multiplexer that is connected to the ATM cross-connect system and linked to the signaling processor. |



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| Number | Publication Number | Title                               | Application Date | Priority Date  | Examiner Primary | First or Exemplary Claim  |
|--------|--------------------|-------------------------------------|------------------|--|------------------|---|
| 13     | US6501759          | Broadband telecommunications system | 2/4/2000         | 2000-02-04 1996-11-22                                  | Rao; Seema S.    | We claim:<br>1. A communication method for a call having a first message and call communications, the method comprising:<br>□ receiving and processing the first message in a processing system to select a first identifier and generating and transferring from the processing system a second message identifying the first identifier;<br>□ receiving the call communications and the second message into an asynchronous communication system, and in response to the second message, inserting the first identifier in the call communications and routing the call communications through the asynchronous communication system to a narrowband switch;<br>□ receiving the call communications in the narrowband switch and providing a service for the call wherein providing the service comprises selecting a route for the call, generating and transferring from the narrowband switch a third message identifying the route, and transferring the call communications from the narrowband switch;<br>□ receiving and processing the third message in the processing system to select a second identifier based on the route and  |
| 14     | US2005147101A1     | Broadband telecommunications system | 7/29/2003        | 2003-07-29 2000-02-04 1996-02-02 1995-09-08 1994-05-05 |                  | <b>1</b>. A method of operating a communication system, the method comprising: <p>receiving telecommunication signaling for calls into a signaling processor, and responsively on a call-by-call basis, selecting routing information based on the telecommunication signaling and transferring control messages indicating the routing information; and </p><p>receiving the control messages and user communications for the calls into a communication unit, and responsively on the call-by-call basis, converting the user communications from a first communication format into a second communication format having headers that include the routing information selected by the signaling processor and transferring the user communications in the second communication format. </p>□  |
| 15     | US2004081107A1     | Broadband telecommunications system | 10/16/2003       | 2003-10-16 2002-08-05 1999-11-12 1995-09-08            |                  | 1. A telecommunications signaling processing system for a call from a caller number to a called number comprising:<br><claim-text>a signaling interface configured to receive a signaling message; </claim-text> <claim-text>a validation table to determine if the call should be allowed based on whether the caller number is delinquent on payment; </claim-text> <claim-text>echo control to enable an echo canceller if the call is a voice call and to disable the echo canceller if the call is a data call; </claim-text> <claim-text>a POTS process to translate the called number to a route instruction if the called number is a POTS number; </claim-text> <claim-text>an N00 process to translate the called number to the route instruction if the called number is an N00 number; </claim-text> <claim-text>a VPN process to translate the called number to the route instruction if the caller number or the called number is a VPN number; </claim-text> <claim-text>a control interface to transfer a control instruction indicating the route instruction, wherein the route instruction comprises an identifier; </claim-text> <claim-text>wherein an interworking unit receives the route instruction, and in response, adds |
| 16     | US2005254496A1     | Broadband telecommunications system | 6/21/2005        | 2005-06-21 2002-10-01 2000-02-04 1996-11-22            |                  | Equipment (CPE) to one of a plurality of circuit switches, the method comprising: receiving and processing a first message from the user CPE to select the one circuit switch from the plurality of circuit switches, and selecting an identifier and a DS0 to route user communications from the user CPE to the one circuit switch; </p> <p>transferring a second message indicating the identifier and the DS0 and transferring a Signaling System Seven (SS7) Initial Address Message (IAM) to the one circuit switch indicating the DS0; </p> <p>receiving the user communications from the user CPE in a packet format having the identifier in headers, and routing the user communications in the packet format based on the identifier in the headers; and </p> <p>receiving the second message and the user communications in the packet format, and in response, converting the user communications from the packet format into a DS0 format and transferring the user communications in the DS0 format over the DS0 to the one circuit switch. </p>□  |