CLAIMS

1. A client for multimodal network traffic differentiation of application data, the client comprising: at least one memory; and at least one processor coupled with the at least one memory and configured to cause the client to:

generate a protocol description wherein the protocol description contains a mapping of a plurality of data flows to identifiable protocol elements;

multiplex the plurality of data flows into an application multimodal protocol flow, the multiplexing based on the protocol description; and

send a request for an application session with network traffic differentiation to a server, the request comprising:

a common multimodal session identifier,

a representation of the protocol description, and

a Quality of Service (QoS) profile comprising a set of QoS requirements of the plurality of multiplexed data flows.

2. The client of claim 1, wherein the mapping of a plurality of data flows to identifiable protocol elements comprises an indexed listing.

3. The client of claim 1 or 2, wherein the identifiable protocol elements comprise at least one of:

a stream protocol frame identifiable by at least one Stream ID;

a datagram protocol frame identifiable by at least one Stream ID;

a subprotocol identifiable by at least one of a protocol type and a protocol number;

a subprotocol carrying an identifiable media payload type.

4. The client of claim 1, 2 or 3, wherein the client comprises one of an Application Server (AS) and a User Equipment (UE).

5. The client of claim 4, wherein the client dynamically updates at least one part of the request for an application session with network traffic differentiation based on at least one of:

a change in the protocol description optionally based on the dynamic termination and reallocation of at least one of the stream identifiers, the protocol identifiers and the RTP media type identifiers; and

a change in the QoS profile and the set of QoS requirements of the one or more multiplexed multimodal data flows.

6. The client of any of claims 1 to 5, wherein the server comprises an Application Function (AF).

7. The client of claim 6, wherein the AF communicates the request for the application session with network traffic differentiation with at least one of:

a Network Exposure Function (NEF), and

a Policy Control Function (PCF).

8. A processor for multimodal network traffic differentiation of application data, the processor comprising: at least one controller coupled with at least one memory and configured to cause the processor to:

generate a protocol description wherein the protocol description contains a mapping of a plurality of data flows to identifiable protocol elements;

multiplex the plurality of data flows into an application multimodal protocol flow, the multiplexing based on the protocol description; and

send a request for an application session with network traffic differentiation to a server, the request comprising:

a common multimodal session identifier,

a representation of the protocol description, and

a Quality of Service (QoS) profile comprising a set of QoS requirements of the plurality of multiplexed data flows.

9. A method performed by a client, the method for multimodal network traffic differentiation of application data, the method comprising:

generating a protocol description wherein the protocol description contains a mapping of a plurality of data flows to identifiable protocol elements;

multiplexing the plurality of data flows into an application multimodal protocol flow, the multiplexing based on the protocol description;

sending a request for an application session with network traffic differentiation to a server, the request comprising:

a common multimodal session identifier,

a representation of the protocol description, and

a Quality of Service (QoS) profile comprising a set of QoS requirements of the plurality of multiplexed data flows.

10. The method of claim 9, wherein the mapping of a plurality of data flows to identifiable protocol elements comprises an indexed listing.

11. The method of claim 9 or 10, wherein the identifiable protocol elements comprise at least one of:

a stream protocol frame identifiable by at least one Stream ID;

a datagram protocol frame identifiable by at least one Stream ID;

a subprotocol identifiable by at least one of a protocol type and a protocol number;

a subprotocol carrying an identifiable media payload type.

12. The method of claim 9, 10 or 11, wherein the client comprises one of an Application Server (AS) and a User Equipment (UE).

13. The method of any of claims 9 to 12, wherein the server comprises an Application Function (AF).

14. The method of claim 13, further comprising the AF communicating the request for the application session with network traffic differentiation with at least one of:

a Network Exposure Function (NEF); and

a Policy Control Function (PCF).

15. A server for multimodal network traffic differentiation of application data, the server comprising:

at least one memory; and

at least one processor coupled with the at least one memory and configured to cause the server to:

receive, from a client, a request for an application session with network traffic differentiation, the request comprising:

a common multimodal session identifier,

a representation of the protocol description, and

a Quality of Service (QoS) profile comprising a set of QoS requirements of the plurality of multiplexed data flows; and

transmit the request for the application session with network traffic differentiation to at least one network function.