CLAIMS

~~**What is claimed is:**~~

1.~~———~~ A method for wireless communications at a core network node, comprising:

identifying a communication link for traffic associated with a first latency type between a user equipment (UE) and ~~a~~the core network node via a radio access node;

determining a first variable delay budget for communications of the first latency type between the radio access node and the core network node via the communication link; and

transmitting, to the radio access node, a delay budget configuration, wherein transmitting the delay budget configuration comprises transmitting a first information element (IE) that indicates a total delay budget between the UE and the core network node for communications of the first latency type via the communication link and a second IE that indicates the first variable delay budget; and wherein the total delay budget and first variable delay budget are different.

~~transmitting, to the radio access node, a delay budget configuration indicating the first variable delay budget.~~

2.~~———~~ ~~The method of claim 1, wherein the delay budget configuration indicates a second variable delay budget for communications of the first latency type between the UE and the core network node via the communication link, wherein the second variable delay budget is for communications of the first latency type via the communication link between the UE and the radio access node.~~

~~3.~~———~~ The method of claim 1, wherein determining the first variable delay budget comprises:

determining an uplink variable delay budget for uplink communications of the first latency type via the communication link; and

determining a downlink variable delay budget for downlink communications of the first latency type via the communication link.

~~4.~~——3. The method of claim ~~3~~2, wherein the uplink and downlink variable delay budgets are different.

~~5.~~———4. The method of claim 1, ~~further comprising:~~

~~determining a~~wherein the total delay budget ~~between the UE and the core network node for communications of the first latency type via the communication link~~is based at least in part on the delay budget configuration.

~~6.~~———5. The method of claim 1, wherein determining the first variable delay budget comprises:

determining, at a session management function (SMF), the first variable delay budget between the radio access node and the core network node for communications of the first latency type via the communication link.

~~7.~~ 6. The method of claim ~~6~~5, further comprising:

transmitting the delay budget configuration to a user plane function (UPF).

~~8.~~ 7. The method of claim ~~6~~5, further comprising:

receiving a request to establish or modify a quality of service (QoS) flow corresponding to the communication link, wherein the first variable delay budget is determined in response to the request.

~~9.~~ 8. The method of claim ~~6~~5, further comprising:

receiving a request for handover of the UE, a packet data unit (PDU) session establishment of the UE, a PDU session modification of the UE, or any combination thereof, wherein the first variable delay budget is determined in response to the request.

~~10.~~ 9. The method of claim 1, further comprising:

identifying a set of radio access network (RAN) capabilities for the radio access node, wherein the first variable delay budget is determined based at least in part on the set of RAN capabilities.

~~11.~~ 10. The method of claim ~~10~~9, wherein the set of RAN capabilities comprises a subcarrier spacing for communications via the radio access node, support for mini slot communications via the radio access node, a frame structure for communications via the radio access node, a bandwidth for communications via the radio access node, a bandwidth part for communications via the radio access node, or any combination thereof.

~~12.~~ 11. The method of claim 1, further comprising:

Identifying a set of system capabilities for communications between the UE and the core network node, wherein the first variable delay budget is determined based at least in part on the set of system capabilities.

~~13.~~ 12. The method of claim ~~12~~11, wherein the set of system capabilities comprises a delay bound for traffic associated with the first latency type, a traffic class for traffic associated with the first latency type, or any combination thereof.

~~14.~~ 13. The method of claim 1, further comprising:

determining configuration information of the UE, the radio access node, or the core network node, wherein the first variable delay budget is determined based at least in part on the configuration information.

~~15.~~ 14. The method of claim ~~14~~13, wherein the configuration information is based at least in part on a time sensitive networking (TSN) procedure for determining a capability of a wireless communications system.

~~16.~~ 15. The method of claim ~~14~~13, wherein the configuration information comprises dynamic information from a time sensitive networking (TSN) system associated with the UE

or a TSN traffic class associated with a quality of service (QoS) flow corresponding to the communication link.

~~17.~~ 16. The method of claim ~~14~~13, wherein the configuration information comprises subscription information associated with the UE.

~~18.~~ 17. The method of claim 1, further comprising:

transmitting the delay budget configuration based at least in part on a quality of service (QoS) associated with the UE, one or more QoS rules associated with the communication link, one or more uplink packet detection rules, one or more downlink packet detection rules, or any combination thereof.

~~19. The method of claim 1, wherein transmitting the delay budget configuration comprises:~~

~~transmitting a first information element (IE) that indicates a total delay budget between the UE and the core network node for communications of the first latency type via the communication link; and~~

~~transmitting a second IE that indicates the first variable delay budget.~~

~~20.~~ 18. The method of claim 1, wherein the first variable delay budget is indicated as a fraction of a second variable delay budget.

~~21.~~ 19. The method of claim 1, wherein the communication link corresponds to a quality of service (QoS) flow associated with the first latency type.

~~22.~~ 20. The method of claim 1, wherein the traffic associated with the first latency type comprises time sensitive networking (TSN) traffic.

~~23.~~ 21. A method for wireless communications at a radio access node, comprising:

identifying a communication link for traffic associated with a first latency type between a user equipment (UE) and a core network node via ~~a~~the radio access node;

receiving, from the core network node, a delay budget configuration indicating a first variable delay budget for communications of the first latency type between the radio access node and the core network node via the communication link~~; and~~, wherein receiving the delay budget configuration comprises receiving a first information element (IE) that indicates a total delay budget between the UE and the core network node for communications of the first latency type via the communication link and a second IE that indicates the first variable delay budget; wherein the total delay budget and first variable delay budget are different; and scheduling a communication between the UE and the radio access node based at least in part on the first variable delay budget.

~~scheduling a communication between the UE and the radio access node based at least in part on the first variable delay budget.~~

~~24.~~ 22. The method of claim ~~23, wherein the delay budget configuration indicates a second variable delay budget for communications of the first latency type between~~

~~the UE and the core network node via the communication link, wherein the second variable delay budget is for communications of the first latency type via the communication link between the UE and the radio access node, wherein the communication between the UE and the radio access node is scheduled based at least in part on the second variable delay budget.~~

~~25. The method of claim 23~~21, further comprising:

identifying an uplink variable delay budget for uplink communications of the first latency type via the communication link based at least in part on the delay budget configuration; and

identifying a downlink variable delay budget for downlink communications of the first latency type via the communication link based at least in part on the delay budget configuration, wherein the communication between the UE and the radio access node is scheduled based at least in part on the uplink variable delay budget or the downlink variable delay budget.

~~26.~~ 23. The method of claim ~~25~~22, wherein the uplink and downlink variable delay budgets are different.

~~27.~~ 24. The method of claim ~~23, wherein receiving the delay budget configuration comprises:~~

~~receiving a first information element (IE) that indicates a total delay budget between the UE and the core network node for communications of the first latency type via the communication link; and~~

~~receiving a second IE that indicates the first variable delay budget.~~

~~28. The method of claim 23~~21, wherein the first variable delay budget is indicated as a fraction of a second variable delay budget.

~~29.~~ 25. The method of claim ~~23~~21, wherein the communication link corresponds to a quality of service (QoS) flow associated with the first latency type.

~~30.~~ 26. The method of claim ~~23~~21, wherein the traffic associated with the first latency type comprises time sensitive networking (TSN) traffic.

~~31.~~ 27. An apparatus for wireless communications at a core network node, comprising:

a processor,

memory coupled with the processor; and

instructions stored in the memory and executable by the processor to cause the apparatus to:

identify a communication link for traffic associated with a first latency type between a user equipment (UE) and ~~a~~the core network node via a radio access node;

determine a first variable delay budget for communications of the first latency type between the radio access node and the core network node via the communication link; and transmit, to the radio access node, a delay budget configuration, wherein transmitting the delay budget configuration comprises transmitting a first information element (IE) that indicates a total delay budget between the UE and the core network node for communications of the first latency type via the communication link and a second IE that indicates the first variable delay budget; and wherein the total delay budget and first variable delay budget are different.

28. The apparatus of claim 27, wherein the ~~radio access node, a delay budget configuration indicating~~instructions to determine the first variable delay budget~~.~~

~~32. An apparatus for wireless communications, comprising:~~

~~a processor,~~

~~memory coupled with the processor; and~~

~~instructions stored in the memory and~~ are executable by the processor to cause the apparatus to:

~~identify a communication link for traffic associated with a first latency type between a user equipment (UE) and a core network node via a radio access node;~~

~~receive, from the core network node, a delay budget configuration indicating a first variable delay budget for communications of the first latency type between the radio access node and the core network node via the communication link; and~~

~~schedule a communication between the UE and the radio access node based at least in part on the first variable delay budget.~~

~~33. An apparatus for wireless communications, comprising:~~

~~means for identifying a communication link for traffic associated with a first latency type between a user equipment (UE) and a core network node via a radio access node;~~

~~means for determining a first variable delay budget for communications of the first latency type between the radio access node and the core network node via the communication link; and~~

~~means for transmitting, to the radio access node, a delay budget configuration indicating the first variable delay budget.~~

~~34. The apparatus of claim 33, wherein the delay budget configuration indicates a second variable delay budget for communications of the first latency type between the UE and the core network node via the communication link, wherein the second variable delay budget is for communications of the first latency type via the communication link between the UE and the radio access node.~~

~~35. The apparatus of claim 33, wherein the means for determining the first variable delay budget comprises:~~

~~means for determining~~ determine an uplink variable delay budget for uplink communications of the first latency type via the communication link; and

~~means for determining~~ determine a downlink variable delay budget for downlink communications of the first latency type via the communication link.

~~36.~~ 29. The apparatus of claim ~~35~~28, wherein the uplink and downlink variable delay budgets are different.

~~37.~~ 30. The apparatus of claim ~~33, further comprising:~~

~~means for determining a~~ 27, wherein the total delay budget ~~between the UE and the core network node for communications of the first latency type via the communication link~~is based at least in part on the delay budget configuration.

~~38.~~ 31. The apparatus of claim ~~33~~27, wherein the ~~means for determining~~instructions to determine the first variable delay budget ~~comprises:~~

~~means for determining~~are executable by the processor to cause the apparatus to: determine, at a session management function (SMF), the first variable delay budget between the radio access node and the core network node for communications of the first latency type via the communication link.

~~39.~~ 32. The apparatus of claim ~~38,~~31, wherein the instructions are further ~~comprising:~~

~~means for transmitting~~executable by the processor to cause the apparatus to: transmit the delay budget configuration to a user plane function (UPF).

~~40.~~ 33. The apparatus of claim ~~38,~~31, wherein the instructions are further ~~comprising:~~

~~means for receiving~~executable by the processor to cause the apparatus to: receive a request to establish or modify a quality of service (QoS) flow corresponding to the communication link, wherein the first variable delay budget is determined in response to the request.

~~41.~~ 34. The apparatus of claim ~~38,~~31, wherein the instructions are further ~~comprising:~~

~~means for receiving~~executable by the processor to cause the apparatus to: receive a request for handover of the UE, a packet data unit (PDU) session establishment of the UE, a PDU session modification of the UE, or any combination thereof, wherein the first variable delay budget is determined in response to the request.

~~42.~~ 35. The apparatus of claim ~~33,~~27, wherein the instructions are further ~~comprising:~~

~~means for identifying~~executable by the processor to cause the apparatus to: identify a set of radio access network (RAN) capabilities for the radio access node, wherein the first variable delay budget is determined based at least in part on the set of RAN capabilities.

~~43.~~ 36. The apparatus of claim ~~42~~35, wherein the set of RAN capabilities comprises a subcarrier spacing for communications via the radio access node, support for mini slot communications via the radio access node, a frame structure for communications via the radio access node, a bandwidth for communications via the radio access node, a bandwidth part for communications via the radio access node, or any combination thereof.

~~44.~~ 37. The apparatus of claim ~~33,~~27, wherein the instructions are further ~~comprising:~~

~~means for identifying~~executable by the processor to cause the apparatus to: identify a set of system capabilities for communications between the UE and the core network node, wherein the first variable delay budget is determined based at least in part on the set of system capabilities.

~~45.~~ 38. The apparatus of claim ~~44~~37, wherein the set of system capabilities comprises a delay bound for traffic associated with the first latency type, a traffic class for traffic associated with the first latency type, or any combination thereof.

~~46.~~ 39. The apparatus of claim ~~33,~~27, wherein the instructions are further ~~comprising:~~

~~means for determining~~executable by the processor to cause the apparatus to: determine configuration information of the UE, the radio access node, or the core network node, wherein the first variable delay budget is determined based at least in part on the configuration information.

~~47.~~ 40. The apparatus of claim ~~46~~39, wherein the configuration information is based at least in part on a time sensitive networking (TSN) procedure for determining a capability of a wireless communications system.

~~48.~~ 41. The apparatus of claim ~~46~~39, wherein the configuration information comprises dynamic information from a time sensitive networking (TSN) system associated with the UE or a TSN traffic class associated with a quality of service (QoS) flow corresponding to the communication link.

~~49.~~ 42. The apparatus of claim ~~46~~39, wherein the configuration information comprises subscription information associated with the UE.

~~50.~~ ~~43.~~ The apparatus of claim ~~33,~~27, wherein the instructions are further ~~comprising:~~

~~means for transmitting~~executable by the processor to cause the apparatus to: transmit the delay budget configuration based at least in part on a quality of service (QoS) associated with the UE, one or more QoS rules associated with the communication link, one or more uplink packet detection rules, one or more downlink packet detection rules, or any combination thereof.

~~51.~~ ~~44.~~ The apparatus of claim ~~33, wherein the means for transmitting the delay budget configuration comprises:~~

~~means for transmitting a first information element (IE) that indicates a total delay budget between the UE and the core network node for communications of the first latency type via the communication link; and~~

~~means for transmitting a second IE that indicates the first variable delay budget.~~

~~52. The apparatus of claim 33~~27, wherein the first variable delay budget is indicated as a fraction of a second variable delay budget.

~~53.~~ ~~45.~~ The apparatus of claim ~~33~~27, wherein the communication link corresponds to a quality of service (QoS) flow associated with the first latency type.

~~54.~~ ~~46.~~ The apparatus of claim ~~33~~27, wherein the traffic associated with the first latency type comprises time sensitive networking (TSN) traffic.

~~55.~~ ~~47.~~ An apparatus for wireless communications~~, comprising:~~

~~means for identifying~~ at a radio access node, comprising: a processor, memory coupled with the processor; and instructions stored in the memory and executable by the processor to cause the apparatus to: identify a communication link for traffic associated with a first latency type between a user equipment (UE) and a core network node via ~~a~~the radio access node;

~~means for receiving~~ receive, from the core network node, a delay budget configuration indicating a first variable delay budget for communications of the first latency type between the radio access node and the core network node via the communication link~~;~~ ~~and~~

~~means for scheduling a communication between the UE and the radio access node based at least in part on the first variable delay budget.~~

~~56. The apparatus of claim 55~~, wherein receiving the delay budget configuration comprises receiving a first information element (IE) that indicates a ~~second variable~~total delay budget between the UE and the core network node for communications of the first

latency type ~~between the UE and the core network node~~ via the communication link~~,~~ and a second IE that indicates the first variable delay budget; and wherein the ~~second variable~~total delay budget ~~is for communications of the~~ and first ~~latency type via the~~variable delay budget are different; and schedule a communication ~~link~~ between the UE and the radio access node~~, wherein the communication between the UE and the radio access node is scheduled~~ based at least in part on the ~~second~~first variable delay budget.

~~57.~~ 48. The apparatus of claim ~~55,~~47, wherein the instructions are further ~~comprising:~~

~~means for identifying~~executable by the processor to cause the apparatus to: identify an uplink variable delay budget for uplink communications of the first latency type via the communication link based at least in part on the delay budget configuration; and identify a downlink variable delay budget for downlink communications of the first latency type via the communication link based at least in part on the delay budget configuration, wherein the communication between the UE and the radio access node is scheduled based at least in part on the uplink variable delay budget or the downlink variable delay budget.

~~means for identifying a downlink variable delay budget for downlink communications of the first latency type via the communication link based at least in part on the delay budget configuration, wherein the communication between the UE and the radio access node is scheduled based at least in part on the uplink variable delay budget or the downlink variable delay budget.~~

~~58.~~ 49. The apparatus of claim ~~57~~48, wherein the uplink and downlink variable delay budgets are different.

~~59.~~ 50. The apparatus of claim ~~55, wherein the means for receiving the delay budget configuration comprises:~~

~~means for receiving a first information element (IE) that indicates a total delay budget between the UE and the core network node for communications of the first latency type via the communication link; and~~

~~means for receiving a second IE that indicates the first variable delay budget.~~

~~60. The apparatus of claim 55~~47, wherein the first variable delay budget is indicated as a fraction of a second variable delay budget.

~~61.~~ 51. The apparatus of claim ~~55~~47, wherein the communication link corresponds to a quality of service (QoS) flow associated with the first latency type.

~~62.~~ 52. The apparatus of claim ~~55~~47, wherein the traffic associated with the first latency type comprises time sensitive networking (TSN) traffic.

53. An apparatus for wireless communications at a core network node, comprising: means for identifying a communication link for traffic associated with a first latency type between a user equipment (UE) and the core network node via a radio access node; means for

determining a first variable delay budget for communications of the first latency type between the radio access node and the core network node via the communication link; and means for transmitting, to the radio access node, a delay budget configuration, wherein transmitting the delay budget configuration comprises transmitting a first information element (IE) that indicates a total delay budget between the UE and the core network node for communications of the first latency type via the communication link and a second IE that indicates the first variable delay budget; and wherein the total delay budget and first variable delay budget are different.

54. An apparatus for wireless communications at a radio access node, comprising: means for identifying a communication link for traffic associated with a first latency type between a user equipment (UE) and a core network node via the radio access node; means for receiving, from the core network node, a delay budget configuration indicating a first variable delay budget for communications of the first latency type between the radio access node and the core network node via the communication link, wherein receiving the delay budget configuration comprises receiving a first information element (IE) that indicates a total delay budget between the UE and the core network node for communications of the first latency type via the communication link and a second IE that indicates the first variable delay budget; and wherein the total delay budget and first variable delay budget are different; and means for scheduling a communication between the UE and the radio access node based at least in part on the first variable delay budget.

~~63.~~ 55. A non-transitory computer-readable medium storing code for wireless communications at a core network node, the code comprising instructions executable by a processor to:

identify a communication link for traffic associated with a first latency type between a user equipment (UE) and ~~a~~the core network node via a radio access node;

determine a first variable delay budget for communications of the first latency type between the radio access node and the core network node via the communication link; and transmit, to the radio access node, a delay budget configuration, wherein transmitting the delay budget configuration comprises transmitting a first information element (IE) that indicates a total delay budget between the UE and the core network node for communications of the first latency type via the communication link and a second IE that indicates the first variable delay budget; and wherein the total delay budget and first variable delay budget are different.

~~transmit, to the radio access node, a delay budget configuration indicating the first variable delay budget.~~

~~64.~~ 56. A non-transitory computer-readable medium storing code for wireless communications~~,~~ at a radio access node, the code comprising instructions executable by a processor to:

identify a communication link for traffic associated with a first latency type between a user equipment (UE) and a core network node via ~~a~~the radio access node;

receive, from the core network node, a delay budget configuration indicating a first variable delay budget for communications of the first latency type between the radio access node and the core network node via the communication link~~; and~~

, wherein receiving the delay budget configuration comprises receiving a first information element (IE) that indicates a total delay budget between the UE and the core network node for communications of the first latency type via the communication link and a second IE that indicates the first variable delay budget; and wherein the total delay budget and first variable delay budget are different; and schedule a communication between the UE and the radio access node based at least in part on the first variable delay budget.