

ADAPTIVE PARAMETER CONFIGURATION IN WIRELESS COMMUNICATION

TECHNICAL FIELD

This patent document generally relates to systems, devices, and techniques for wireless communications.

BACKGROUND

Wireless communication technologies are moving the world toward an increasingly connected and networked society. The rapid growth of wireless communications and advances in technology has led to greater demand for capacity and connectivity. Other aspects, such as energy consumption, device cost, spectral efficiency, and latency are also important to meeting the needs of various communication scenarios. In comparison with the existing wireless networks, next generation systems and wireless communication techniques need to provide support for an increased number of users and devices.

SUMMARY

This document relates to methods, systems, and devices for adaptive parameter configuration in wireless communication. The disclosed technology describes methods that can be implemented at a plurality of mobile devices (or terminals, or user equipment) or a plurality of networks (such as a base station, gNodeB) to prevent or reduce unnecessary power consumptions.

In a first aspect, the present disclosure provides a wireless communication method, comprising: receiving, by a user device, a message; and configuring the user device to operate based on the message, wherein the receiving of the message provides information that a DRX (discontinuous reception) on-duration timer starts after a time offset, wherein the time offset is not less than a bandwidth part (BWP) switching time, and wherein the time offset is related to a capability of the user device.

In a second aspect, the present disclosure provides a wireless communication method, comprising: transmitting, by a network device, to a user device, a message,

wherein the message provides information that a DRX (discontinuous reception) on-duration timer starts after a time offset, wherein the time offset is not less than a bandwidth part (BWP) switching time, and wherein the time offset is related to a capability of the user device.

In a third aspect, the present disclosure provides a user device for wireless communication, comprising a processor that is configured to carry out a method comprising: receiving a message from a network device, wherein the receiving of the message provides information that a DRX (discontinuous reception) on-duration timer starts after a time offset; and performing an operation related to a DRX cycle based on the message, wherein the time offset is not less than a bandwidth part (BWP) switching time, and wherein the time offset is related to a capability of the user device.

In a fourth aspect, the present disclosure provides an apparatus for wireless communication, comprising a processor that is configured to carry out a method comprising: transmitting, to a user device, a message that provides information that a DRX (discontinuous reception) on-duration timer starts after a time offset, wherein the time offset is not less than a bandwidth part (BWP) switching time, and wherein the time offset is related to a capability of the user device.

In an embodiment, the present disclosure provides a wireless communication method, comprising: monitoring whether a message that includes an indication related to a discontinuous reception (DRX) cycle of a user device has been detected; and upon a result of the monitoring indicating that the indication has not been detected, starting a timer related to the discontinuous reception (DRX) cycle after a time offset, wherein the time offset is not less than a bandwidth part (BWP) switching time and the time offset is related to a capability of the user device.

In one embodiment, a wireless communication method is provided to comprise: a wireless communication method is provided to comprise updating configuration parameters of a user device based on one or more messages including at least one of a parameter update indication, a parameter update inquiry, a parameter set, or a parameter index set.

In another embodiment, a wireless communication apparatus comprising a processor configured to perform the disclosed methods is disclosed.

In another embodiment, a computer readable medium having code stored thereon is disclosed. The code, when implemented by a processor, causes the processor to implement a method described in the present document.

CLAIMS

1. A wireless communication method, comprising:
receiving, by a user device, a message; and
configuring the user device to operate based on the message,
wherein the receiving of the message provides information that a DRX (discontinuous reception) on-duration timer starts after a time offset,
wherein the time offset is not less than a bandwidth part (BWP) switching time, and
wherein the time offset is related to a capability of the user device.
2. The wireless communication method of claim 1, wherein the message is received through a Layer 1 signaling in a physical downlink control channel (PDCCH) transmission.
3. The wireless communication method of claim 2, wherein the PDCCH transmission is received in a primary cell.
4. The wireless communication method of claim 2, wherein the Layer 1 signaling is specific for a certain group of user devices.
5. The wireless communication method of claim 2, wherein the DRX on-duration timer starts after the time offset responsive to not receiving the PDCCH transmission.
6. A wireless communication method, comprising:
transmitting, by a network device, to a user device, a message,
wherein the message provides information that a DRX (discontinuous reception) on-duration timer starts after a time offset,
wherein the time offset is not less than a bandwidth part (BWP) switching time, and

wherein the time offset is related to a capability of the user device.

7. The wireless communication method of claim 6, wherein the message is transmitted through a Layer 1 signaling in a physical downlink control channel (PDCCH) transmission.
8. The wireless communication method of claim 7, wherein the PDCCH transmission is transmitted in a primary cell.
9. The wireless communication method of claim 7, wherein the Layer 1 signaling is specific for a certain group of user devices.
10. The wireless communication method of claim 7, wherein the DRX on-duration timer starts after the time offset responsive to not transmitting the PDCCH transmission.
11. A user device for wireless communication, comprising a processor that is configured to carry out a method comprising:
 - receiving a message from a network device, wherein the receiving of the message provides information that a DRX (discontinuous reception) on-duration timer starts after a time offset; and
 - performing an operation related to a DRX cycle based on the message, wherein the time offset is not less than a bandwidth part (BWP) switching time, and wherein the time offset is related to a capability of the user device.
12. The user device of claim 11, wherein the message is received through a Layer 1 signaling in a physical downlink control channel (PDCCH) transmission, and wherein the Layer 1 signaling is specific for a certain group of user devices.
13. The user device of claim 11, wherein the message is received through a Layer 1 signaling in a physical downlink control channel (PDCCH) transmission, and wherein the DRX

on-duration timer starts after the time offset responsive to not receiving the PDCCH transmission.

14. An apparatus for wireless communication, comprising a processor that is configured to carry out a method comprising:

transmitting, to a user device, a message that provides information that a DRX (discontinuous reception) on-duration timer starts after a time offset, wherein the time offset is not less than a bandwidth part (BWP) switching time, and wherein the time offset is related to a capability of the user device.

15. The apparatus of claim 14, wherein the message is transmitted through a Layer 1 signaling in a physical downlink control channel (PDCCH) transmission, and wherein the Layer 1 signaling is specific for a certain group of user devices.

16. The apparatus of claim 14, wherein the message is transmitted through a Layer 1 signaling in a physical downlink control channel (PDCCH) transmission, and wherein the DRX on-duration timer starts after the time offset responsive to not receiving the PDCCH transmission.