

Developing Efficient Protocol Architecture for Bluetooth Handling Protocols

Pratiksha M. Chavhan

Abstract - Bluetooth and WiFi are used in smartphones to access the internet where WiFi access point is available. Energy consumption reduction is one of the benefits of the communication platform. Wireless local area network is (WLAN) (IEEE 802.11). One of the communication standards but WLAN requires high power consumption. It requires high costs, this paper shows how the power and energy consumption is reduced by using various methods. Multiple clustering techniques are used in cooperative clustering mechanisms.

Keywords- Cooperative clustering, Cost factor, Time factor, Group communication

I. INTRODUCTION

Bluetooth is used in various devices for short distance wireless connection. Now it is possible to connect every device without wires including phones. This is possible by using Bluetooth ad hoc wireless networks. 4G wireless communication technologies are requested to meet the needs of today's technologies. CONET cooperative Networking protocol is used in various devices. It uses clusters according to the bandwidth of each node. The main purpose of the smartphones is data communication. Bluetooth and Wi-Fi are widely used features in the smartphone. Bluetooth is used as a personal area network. Around 70 percent of phones are equipped with Bluetooth and 80 percent of phones are equipped with Wi-Fi. The important consideration in a smartphone is obtainable throughput and power consumption and cost is calculated by using this parameter. Power consumption reduction is one of the most important factors to attract the user towards a particular smartphone.

II. PREVIOUS WORK DONE

Author Roy Friedman, et al.[1] works on Power and Throughput Tradeoffs of WiFi and Bluetooth in Smartphones which gives power requirements for Bluetooth and WiFi. Author Jong-Woon Yoo, et al.[2] works on Cooperative Clustering Protocol for Energy Saving of Mobile Devices with WLAN and Bluetooth Interfaces.

Author Tonio Iera et al.[3] works on Fair Cost Allocation in Cellular-Bluetooth Cooperation Scenarios. Author Carlos de Morais Cordeiro et al.[4] works on Modeling and Performance of Bluetooth MAC Protocol. Author Filippo Casamassima et al.[5] works on Synchronization methods for Bluetooth based WBANs.

III. EXISTING METHODOLOGY

Energy requirement is one

of the important properties of any mobile computing device. The mobile phones consist of Bluetooth and Wi-Fi which are the communicating applications over the small distance. Energy consumption reduction is one of the benefits of the communication platform. Wireless local area network (WLAN) mobile computing. 4G wireless communication technologies are requested to meet the needs of today's technologies. CONET cooperative Networking protocol is used in various devices. Bluetooth baseband MAC protocol gives easy access than FDMA techniques. Time synchronization problem is reduced by using Bluetooth.

IV. ANALYSIS AND DISCUSSION

1. Analysis of existing methods

Energy requirement is one of the most important factors in Bluetooth and WiFi. The cost factor is calculated by calculating the throughput. As the cost decreases the users can get attracted towards the technology. Generally users are interested in low cost and good service. By using cooperative clustering environment the users can access the internet in very short distance that reduces the power, throughput and cost indirectly. Cross layer optimization for TCP/IP which reduces the throughput this is also efficient in case for power. The power consumption depends on the type of the node in the group computing. In individual computing the power requirement is less that is also depends on the type of the cooperative node.

2. Attribute and Parameter Considered

- Cross layer optimization for TCP/IP implementation.
- Cooperative wireless clustering.
- Cooperative network protocol.
- Power and Throughput for Bluetooth and WiFi.
- Group networking.
- Individual networking.

3. Effect of outcome of various attribute and parameter

- A cross-layer optimization for TCP/IP it improves the ratio of throughput to power this factor get improved when transmitter is more capable than receiver.
- Clustering is commonly used in network balancing, load balancing techniques.
- cooperative Networking protocol (CONET), it reforms clusters according to bandwidth requirement, energy use.
- Throughput and power consumption is minimized by using cross optimization for TCP/IP.
- Networks prohibitively high power consumption of WiFi when connected to an ad hoc network.

4. How Attributes and Parameter Improved

In WiFi power consumption the power consumption is linear with obtained throughput. When sender is able to send the data faster than the receiver can consume then at the threshold point where power get doubled so, the sender and receiver having moderate speed for sending and receiving the data. Clustering also used in load balancing . In group communication the node should be properly distributed to reduce the cost and same precaution should be taken in case of individual networking.

5. Trends of Improvement

- Throughput
- Power consumption
- Bandwidth
- Energy use

- Cost

6. Comparison and Drawback:

Generally in Wi-Fi the power consumption is linear with throughput. When sender sends the data faster than the receiver consume the data at the threshold point the power consumption is double and throughput continuous to grow linearly. In the Bluetooth, the power consumption while sending and receiving is lower than WiFi. when transmitting low bit-rate the Bluetooth is more power efficient than WiFi. Throughput and power consumption is minimized by using cross optimization for TCP/IP.

V. PROPOSED METHODOLOGY

In Wi-Fi and Bluetooth the speed of sender and receiver should be moderate to reduce the power losses. In group communication the proper nodes should distributed to reduce the power losses. In the co-operating clustering mechanism multiple clustering mechanism can be used . This is proposed method of this paper.

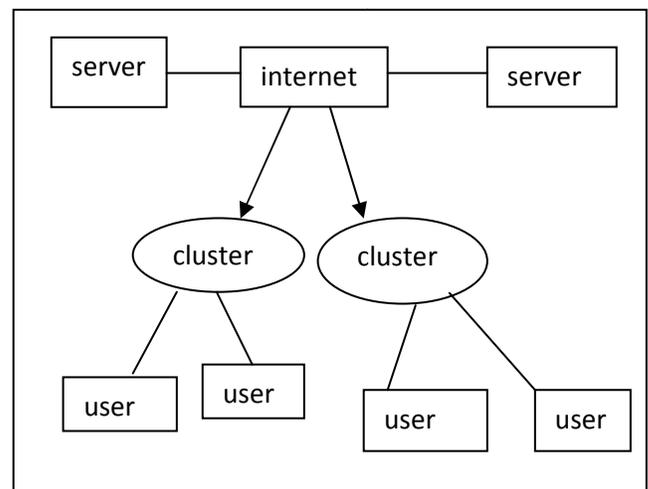


Fig1-multiple clustering

VI. EXPECTED RESULT

Wi-Fi enabled phones are extremely popular so, it is important to use power consumption technique in it to attract the user towards technologies. Cost is also important factor in communication devices.

CONCLUSION

The CONET and PICONET maximize the lifetime of the group communication and distribute the energy towards each node in case of individual networking. TCP/IP cross optimization technique will reduce the power losses in mobile computing devices.

FUTURE SCOPE

The CONET and PICONET maximize the lifetime of the group communication and distribute the energy towards each node in case of individual networking which is very useful in case of future technologies. The speed of the sender and receiver is moderate to reduce the power losses in the devices.

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