# A Novel Secure and Efficient Data Aggregation Scheme for IoT

# ABSTRACT

- Cellular network is facing severe traffic overload problem caused by phenomenal growth of mobile data.

- Offloading part of the mobile data traffic from cellular network to alternative networks is a promising solution.

- In this paper, we study mobile data offloading problem under the architecture of mobile cloud computing (MCC), where mobile data can be delivered by WiFi network and device-to-device (D2D) communication.

- In order to minimize the overall cost for data delivery task, it is crucial to reduce cellular network usage while satisfying delay requirements.

# CONTINUE

- In our proposed model, we formulate the data offloading task as a finite horizon Markov Decision Process.

- We first propose a hybrid offloading algorithm for mobile data with different delay requirements.

- Moreover, we establish the sufficient conditions for the existence of threshold policy.

- Then, we propose a monotone offloading algorithm based on threshold policy in order to reduce the computational complexity.

# EXISTING SYSTEM

- With the increase of the number of smart mobile devices and data heavy mobile applications, such as video streaming and cloud backup, global mobile data traffic has been growing dramatically in recent years.

- The growing speed of mobile traffic will push the current cellular network to the limit.

- The Quality of Experience (QoE) of mobile services will not be guaranteed without the high-speed and stable network connections.

- However, it is impractical to keep extending the current cellular network infrastructure to improve QoE, given the corresponding expensive investment.

# CONTINUE

- In order to cope with this problem, mobile data offloading technology can be an alternative solution.

- Mobile data offloading can opportunistically use alternative networks to reduce the network congestion.

- Cellular network is facing severe traffic overload problem caused by phenomenal growth of mobile data.

- Offloading part of the mobile data traffic from cellular network to alternative networks is a promising solution.

# PROPOSED SYSTEM

- In our proposed model, we formulate the data offloading task as a finite horizon Markov Decision Process (FHMDP).

- We first propose a hybrid offloading algorithm for mobile data with different delay requirements. Moreover, we establish the sufficient conditions for the existence of threshold policy.

- Then, we propose a monotone offloading algorithm based on threshold policy in order to reduce the computational complexity.

- We propose a hybrid offloading model, where multiple wireless networks are used to transfer mobile data.

# CONTINUE

- MNO can minimize the total communication cost by selecting different networks.

- We formulate the data offloading problem in hybrid wireless networks as an FHMDP model, and propose an offloading algorithm that can support different delay requirements (i.e., loose and tight delay tolerant).

# HARDWARE REQUIREMENTS

- Processor        -     Pentium –III

- Speed           -     1.1 Ghz

- RAM             -     256  MB(min)

- Hard Disk       -    20 GB

- Floppy Drive     -    1.44 MB

- Key Board      -     Standard Windows Keyboard

- Mouse         -    Two or Three Button Mouse

- Monitor        -     SVGA

# SOFTWARE REQUIREMENTS

- Operating System      :    Windows 8

- Front End            :    Java /DOTNET

- Database             :    Mysql/HEIDISQL

# CONCLUSION

○ This paper proposed a hybrid data offloading model, where MNO can use WiFi network and D2D communication to offload mobile data of MSs.

○ We formulated the mobile data offloading problem as an FHMDP and proposed a hybrid offloading algorithm for delay sensitive and delay tolerant applications.

○ Moreover, we established sufficient conditions for the existence of thresholds in monotone policy and proposed a monotone offloading algorithm which can reduce the computational complexity caused by large data size and long deadline.

# REFERENCE

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# CONTINUE

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