Energy-Efficient Scheduling Policy for Collaborative Execution in Mobile Cloud Computing

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Abstract

Mobile devices are being transformed into a ubiquitous computing platform, resulting in profound impact on the way we live, work and play. New mobile applications with advanced features are being created everyday and finding their way into our lives. However, this trend toward omnipotent mobile Internet is hampered by the fact that mobile devices, compared to their desktop counterparts, are inherently resource-poor, due to limited computing power and battery lifetime. As a result, there exists a tussle between computation-intensive applications and resource-poor mobile devices. Recently, a mobile cloud computing paradigm is emerging and is capable of answering the needs of computation-intensive mobile applications, and reflects our vision of "carry small enjoy large": carry a small mobile device while enjoying a large amount of resources offered by cloud computing infrastructure. Under this paradigm, a small mobile device can deliver a rich experience of computing, telephony, multimedia, entertainment, gaming, and Internet. In this talk, I will focus on energy-efficient scheduling policy for collaborative execution in mobile cloud computing.

Biography

Dapeng Oliver Wu received Ph.D. in Electrical and Computer Engineering from Carnegie Mellon University, Pittsburgh, PA, in 2003. Since 2003, he has been on the faculty of Electrical and Computer Engineering Department at University of Florida, Gainesville, FL, where he is currently Professor. His research interests are in the areas of networking, communications, video coding, image processing, computer vision, signal processing, and machine learning. He received University of Florida Research Foundation Professorship Award in 2009, AFOSR Young Investigator Program (YIP) Award in 2009, ONR Young Investigator Program (YIP) Award in 2008, NSF CAREER award in 2007, the IEEE Circuits

and Systems for Video Technology (CSVT) Transactions Best Paper Award for Year 2001, the Best Paper Award in Globecom 2011, and the Best Paper Award in QShine 2006. Currently, he serves as an Associate Editor for IEEE Transactions on Circuits and Systems for Video Technology. He is the founder of newly established IEEE Transactions on Network Science and Engineering. He was the founding Editor-in-Chief of Journal of Advances in Multimedia between 2006 and 2008, and an Associate Editor for IEEE Transactions on Wireless Communications and IEEE Transactions on Vehicular Technology between 2004 and 2007. He is also a guest-editor for IEEE Journal on Selected Areas in Communications (JSAC), Special Issue on Cross-layer Optimized Wireless Multimedia Communications. He has served as Technical Program Committee (TPC) Chair for IEEE INFOCOM 2012, and as TPC Chair for IEEE International Conference on Communications (ICC 2008), Signal Processing for Communications Symposium. He served as Chair for the Award Committee, Technical Committee on Multimedia Communications, IEEE Communications Society. He is an IEEE Fellow.