

Optimizing Job Performance within and across Datacenters



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Time : 2:30 p.m. - 3:30 p.m.

Venue : Room PQ703, 7/Floor, PQ Core, Mong Man Wai Building,
The Hong Kong Polytechnic University

► Abstract

In the era of big data, resources in the cloud need to be carefully scheduled to optimize the performance of data analytic jobs, so that large volumes of data can be processed efficiently. It is typical that solving optimization problems may not be practical enough for making online scheduling decisions, and other alternatives (such as stable matching) may need to be considered. Contrary to such an intuition, we show that optimization can still be used as a practical tool for scheduling resources within and across datacenters in the cloud. Within a datacenter, we designed and implemented a new utility optimal scheduler to allocate resources across competing coflows with different degrees of sensitivity, while still maintaining max-min fairness. Across geographically distributed datacenters, we designed new task schedulers to improve job performance, again by formulating and solving optimization problems. In this talk, we show how these optimization problems can be efficiently solved, and make the case for their practicality with our experiences in real-world implementations.

► About the Speaker

Baochun Li received his B.Engr. degree from the Department of Computer Science and Technology, Tsinghua University, China, in 1995 and his M.S. and Ph.D. degrees from the Department of Computer Science, University of Illinois at Urbana-Champaign, Urbana, in 1997 and 2000. Since 2000, he has been with the Department of Electrical and Computer Engineering at the University of Toronto, where he is currently a Professor. He holds the Bell Canada Endowed Chair in Computer Engineering since August 2005. His research interests include cloud computing, multimedia systems, and networking.

Dr. Li has co-authored more than 300 research papers, with a total of over 15000 citations, an H-index of 71 and an i10-index of 216, according to Google Scholar Citations. He was the recipient of the IEEE Communications Society Leonard G. Abraham Award in the Field of Communications Systems in 2000. In 2009, he was a recipient of the Multimedia Communications Best Paper Award from the IEEE Communications Society, and a recipient of the University of Toronto McLean Award. He is a member of ACM and a Fellow of IEEE.

All are welcome!

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