

PALESTRA

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Optimisation of 3G Networks

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Abstract

Mobile cellular communications, whilst far from perfect, is now a well understood theoretical problem with very practical solutions. Basic voice connections and even low rate data communications have approached the level of a commodity in modern mobile networks. Network coverage is wide, accessibility is assumed, a variety of services is expected. Network quality is however varied. Mixed technologies, multiple equipment vendors and the demand for a wide variety of services create a network with very significant complexity. Managing and optimising the network performance in the face of this ever increasing complexity has become one of the main challenges for mobile network operators. This presentation addresses key issues in the practical optimisation of modern mobile 2G/3G networks. The key parameters which may feasibly be optimised are presented, drawing on real world experience and actual customer cases.

Bio

Dr. Ian Oppermann is an Adjunct Professor (Docent) at the University of Oulu Finland and the Director of Performance Products within the Software Business Line of Nokia Networks Finland. Within the Performance Products portfolio are leading edge network planning and optimisation tools for 2G and 3G technologies. Before joining Nokia, he was the Director of the Centre for Wireless Communications (CWC), a self funded research centre in Oulu Finland. At the CWC, Ian was responsible for looking at "beyond 3G" systems for both cellular and non-cellular networks and. From 1996 to 2002, Ian was CTO of an Australian software development company developing network planning and optimisation tools. Ian holds undergraduate degrees in Science (1990) and Electrical Engineering (1992) from the University of Sydney Australia. He also earned his PhD from the University of Sydney in 1997 where his thesis explored CDMA physical layer technologies. In 2005, he completed an MBA at the University of London.