

What & When?: Distributing Content in Opportunistic Networks

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Abstract

Tomorrow's mobile data exchanges will often occur using intermittent connectivity and the design and development of mobility models, applications, protocols and infrastructures are an essential part of future research in computer networking. Widespread deployment of mobile devices has motivated the research community to focus on a range of new networking issues. Aforementioned devices can transfer data in two ways -first by transmitting it over a wireless network interface, and secondly while being carried from location to location by their user. Propagation of data using opportunistic exchanges has recently become a topic of networking research. Proposals have been published [6, 22] which explore the possibility of data exchanges when small mobile devices, with wireless connectivity enabled, encounter each other while on move. Our contribution is to simulate and analyze the nature of communication behavior between such small devices in the presence of intermittent connectivity. We use the results to estimate their capacity to support distribution of popular forms of content such as podcast data over such networks. We envisage that this will also enable future research, development and deployment of communication facilities in developing nations and remote areas, where the establishment of fixed communication infrastructure is often impeded by cost and political factors.