

Connection Duration Statistics for Wireless Devices

P. Ranjan and J. Li

Intelligent Automation, Inc.

Abstract: There has been a long ongoing debate about the distribution of different parameters for computer and communication networks where a new paradigm shift in terms of modeling the distribution as heavy-tail has been proposed. This heavy tail behavior has also been proposed for wireless network but empirical data-based evidence is still far from conclusive. In this work, we look at the usage patterns of different users in terms of time they spend on the network. Our preliminary data analysis of network usage time shows either a slowly dying tail or prominent multi-modal distribution. We believe that this finding from connection duration data is important and has implications for the design of wireless network. We believe that this kind of network duration statistics is directly related to network usage by humans and pre-scheduled automated devices (i.e. download certain information at certain time or check game scores etc.) and requires further investigation.

