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On Performance of Cache Replacement Schemes in NDN-IoT

Authors : Rasool Sadeghi, Sayed Mahdi Faghih Imani, Negar Najafi

Abstract : The inherent features of Named Data Networking (NDN) provides a robust solution for Internet of Thing (IoT). Therefore, NDN-IoT has emerged as a combined architecture which exploits the benefits of NDN for interconnecting of the heterogeneous objects in IoT. In NDN-IoT, caching schemes are a key role to improve the network performance. In this paper, we consider the effectiveness of cache replacement schemes in NDN-IoT scenarios. We investigate the impact of replacement schemes on average delay, average hop count, and average interest retransmission when replacement schemes are Least Frequently Used (LFU), Least Recently Used (LRU), First-In-First-Out (FIFO) and Random. The simulation results demonstrate that LFU and LRU present a stable performance when the cache size changes. Moreover, the network performance improves when the number of consumers increases.

Keywords : NDN-IoT, cache replacement, performance, ndnSIM
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