Colloquium

Department of Computer Science

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Design of Structured Peer-to-Peer Networks Using Linear Diophantine Equation

Date: November 13, 2014
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<u>Abstract</u>

In this work, we have considered designing a hierarchical architecture in which at each level of the hierarchy existing networks are all structured. We have used Linear Diophantine Equation (LDE) as the mathematical base to realize the architecture. Note that all existing structured approaches use Dynamic Hash Tables (DHTs) to realize their architectures. Use of Linear Diophantine Equation in designing P2P architecture is a new idea; it does not exist in the literature so far. The presented work has shown that use of DHT-based approach is no more the only approach for designing structured P2P networks. On several points from the viewpoint of data query LDE-based overlay architecture can outperform DHT-based ones.