

A Privacy Protection Scheme Supporting Fuzzy Search for NDN Routing Cache Data Name

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Abstract : Named Data Networking (NDN) replaces IP address of traditional network with data name, and adopts dynamic cache mechanism. In the existing mechanism, however, only one-to-one search can be achieved because every data has a unique name corresponding to it. There is a certain mapping relationship between data content and data name, so if the data name is intercepted by an adversary, the privacy of the data content and user's interest can hardly be guaranteed. In order to solve this problem, this paper proposes a one-to-many fuzzy search scheme based on order-preserving encryption to reduce the query overhead by optimizing the caching strategy. In this scheme, we use hash value to ensure the user's query safe from each node in the process of search, so does the privacy of the requiring data content.

Keywords : NDN, order-preserving encryption, fuzzy search, privacy

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