A Compact Routing based Mapping System for the Locator/ID Separation Protocol (LISP)

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Abstract

The Internet and its associated global routing tables are growing at an alarming rate. Will the current routing infrastructure be able to scale itself to sustain such growth? Over the past several years, many efforts have been made to resolve this important issue. This paper offers a novel solution to this serious problem by proposing and presenting an experimental mapping system called Compact Routing based Mapping (CRM). The idea here is to combine the perceived benefits of both Compact Routing and Locator/Identifier Separation Protocol (LISP). In CRM, the critical functions that affect the scalability of the routing system are grounded to the theory of Compact Routing; so that we might overcome the shortcomings of LISP-ALT. We mitigated Compact Routing’s presumption of a static network by reusing LISP’s registration messages and choosing landmarks dynamically based on their capability to aggregate. The key objective of this paper is to provide proof of concept, to give first-hand experience regarding the complicacies that arise with the actual development of such a mapping system. Our work also includes a comprehensive comparison between CRM and LISP-ALT. The results suggest that, CRM would be feasible in the current Internet if deployed and it would be far less expensive...
than LISP-ALT.

References


**Index Terms**

Computer Science

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**Keywords**

LISP-ALT, Compact Routing, BGP, Scalability, Aggregation