

# Introduction to compact routing

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## **Abstract**

The relentless growth in Internet infrastructure has inspired increased attention to understanding and rigorous analysis of several fundamental obstacles to interdomain routing scalability. We argue that one such cause manifests itself as a triangle of inevitable trade-offs among routing table size, path length inflation, and convergence metrics associated with any routing algorithm and network topology it is applied to. We provide a brief introduction to this subject. In particular, we delineate the logical path that led us from practical interdomain routing scalability considerations to a new positive result (INFOCOM'04) regarding the unexpectedly good balance between routing table size and path length inflation produced by one of the recent compact routing algorithms applied to Internet AS-level topologies. We argue that our findings define a promising research path to utilize the theoretical results from distributed computing in the search for scalable interdomain routing for the Internet.