RAIDER: Responsive architecture for inter-domain economics and routing

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Abstract:
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Abstract:
Multi-owner structure shaping inter-domain operations is arguably the most important factor determining the end-to-end performance in the current Internet. Financial sustainability of Internet service provisioning has significantly changed the way Internet grows and all the other business sectors using the Internet as infrastructure. Further, scalability of BGP routing table sizes is becoming a stressing problem. Architectural solutions providing ways to better inter-domain economics and more scalable inter-domain routing protocols are of crucial importance. In this position paper, we present a new interdomain communications architecture to address routing scalability by leveraging the inherent structure in ISP topologies and using a simplified addressing method. To manage risks in costly backbone business and open the doors for realizing higher quality end-to-end services, our architecture uses protocol-level techniques to increase operational granularity of inter-ISP market with automated service level agreements (SLAs).

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