

MASTERS FINAL ORAL EXAMINATION

**Friday, October 28th
1:00p.m. @ 223 Atanasoff**

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The Impact of Peering on Inter Domain Routing

On the internet, an autonomous system (AS) is a collection of routers that are in the control of one or more network administrators on the behalf of a single entity or organization. With the rapid advancements in the internet, a precise understanding of AS business relationships plays an important role in determining different aspects of the internet inter-domain structure. Recent studies show that there is a trend of more AS's peering at IXPs. Deep analysis on the impact of peering will be a promising topic in the evolution of the Internet topology and its hierarchy.

In this paper, we report an in-depth analysis of the impact of peering between ASes on inter-domain routing. We calculate the number of prefixes that reach through p2p, p2c links using data collected from various data sources including the CAIDA, peeringDB, and 'bgp.he.net' website. We then analyze the peering impact based on different network types and different AS locations to determine our results. Furthermore, we performed analysis on the impact of peering in different RIR (Regional Internet Registries). From these results, we also understand the trend of more AS's peering at IXP (Internet Exchange Point).