

ABSTRACT

Border Gateway Protocol (BGP) is a routing protocol used on the Internet to create end-to-end routes across autonomous systems (ASes) often facing instability issues related to policy patterns implemented in an ISP. BGP routing instability that occurs due to misconfiguration. By performing several AS modifications by multiple ISPs that operate multiple ASes for business purposes, ISPs can control the proposed routing and are added in BGP.

Customer and ISP relationships occur multi-homed. If the implementation of inbound traffic engineering in the form of AS path prepending with policy pattern applied together between customer and ISP, it will affect BGP instability. By using the route dampening method approach in addition to discussions and further coordination of information exchange and route negotiations between upstream routers - downstream routers, it is expected that policy differences do not cause conflicts that result in BGP instability.

In this thesis, the influence of AS path prepending on BGP routing instability is analyzed by looking at increasing CPU load. Total consumption of inter AS resources that occur on the internet is greater and needs to be monitored the bandwidth conditions that occur. Increased bandwidth consumption causes report changes on BGP speakers. In addition, trial-and-error using greedy algorithm can predict changes in traffic distribution. The greedy algorithm approach in a systematic and efficient will be obtained to see load balanced conditions that occur. Load balance levels will affect the loading of traffic that plays a role in network stability.

Keywords: Instability BGP, Autonomous System, Policy routing, Prefix, AS path prepending