

End to end performance can be attributed to differences in load, capacity and routing infrastructure with this paper focussing on the impact of routing policies. Routing policies vary across ASes, being determined by several factors both technical and economic, often resulting in a route that is suboptimal with respect to metrics like round trip time, bandwidth and loss rate. Most administrators dont have the time or the financial incentive to define policies that would result in efficient intra-network routing.

This work compares the routes that are selected by default by BGP with other alternate routes that are possible between the same pair of hosts and shows that almost always better routes are available. The metrics of comparison being the same mentioned above. Finally they go on to hypothesize the existence of these superior alternate paths, comparing congestion with propagation delays and also show that these routes are not caused because of few ASes that significantly affect the overall performance.

#### Pros:

- Large data set, collected over a long period of time, proving without doubt that alternate paths really exist and provide substantially better performance.
- The authors have explained some of the questionable methods employed by the work, including taking means instead of medians, variation in data-sets and effects of time of day on measurements. They have clearly shown these factors are not significant enough to make any impact on their observations.
- Through comparison of 3 metrics - alternate paths have a significant impact on each of these metrics.
- Averaging data - Even though most of the graphs presented are based on averaged data, in one network, they use simultaneous measurements of all these metrics to show the validity of their approach.

#### Cons:

- The paper shows the existence of superior alternate routes - so what next? How can these be leveraged to improve the end to end performance.
- The route that gets selected by default arises out of several factors most of which are out of the control of a single network, leading to the question that, given possible alternate routes, is it practically possible to use these? What are the economic aspects of using such alternate routes?