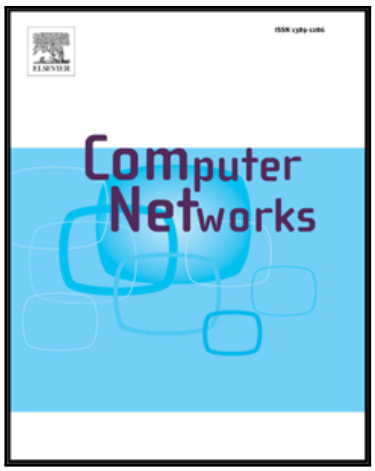

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PII: S1389-1286(16)30281-X
DOI: 10.1016/j.comnet.2016.08.028
Reference: COMPNW 5997

To appear in: *Computer Networks*

Received date: 31 December 2015
Revised date: 5 August 2016
Accepted date: 31 August 2016

Please cite this article as: Robert Wójcik, Jerzy Domżał, Zbigniew Duliński, Grzegorz Rzym, Andrzej Kamisiński, Piotr Gawłowicz, Piotr Jurkiewicz, Jacek Rzasa, Rafał Stankiewicz, Krzysztof Wajda, A survey on methods to provide interdomain multipath transmissions, *Computer Networks* (2016), doi: 10.1016/j.comnet.2016.08.028

A survey on methods to provide interdomain multipath transmissions

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Abstract

Interdomain routing relies on BGP, which does not allow multipath transmissions. Since there is usually more than one path between any pair of nodes on the Internet, it would be beneficial to have the possibility of using them at the same time. Over the years, many solutions have appeared.

In this survey, we show how 17 different approaches suggest solutions for providing interdomain multipath transmission. We divide presented mechanisms based on their relevance, starting from the most significant (assessed subjectively based on publications) and already available (implemented). Firstly, all the mechanisms are presented at a glance. Afterwards, each mechanism is described in more details. After a coherent presentation of each approach, they are compared, contrasted, and subjectively assessed. The comparison criteria include proposal visibility, additional signalling, mechanism complexity, time scale of operation, provided routing type, and path choice entities or path setup procedure. The goal of the survey is to show that there are numerous approaches to providing interdomain multipath transmissions in current IP-based networks.

Keywords: routing, multipath, load balancing, interdomain multipath

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