An ISP-Scale Deployment of TapDance

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ABSTRACT

In this talk, we will report initial results from the world's first ISP-scale field trial of a refraction networking system. Refraction networking is a next-generation censorship circumvention approach that locates proxy functionality in the middle of the network, at participating ISPs or other network operators. We built a high-performance implementation of the TapDance refraction networking scheme and deployed it on four ISP uplinks with an aggregate bandwidth of 100 Gbps. Over one week of operation, our deployment served more than 50,000 real users. The experience demonstrates that TapDance can be practically realized at ISP scale with good performance and at a reasonable cost, potentially paving the way for long-term, large-scale deployments of TapDance or other refraction networking schemes in the future. We will close by discussing interactions between refraction networking and emerging web standards.

ACM Reference Format:
Sergey Frolov, Eric Wustrow, Fred Douglas, Will Scott, Allison McDonald, Benjamin VanderSloot, Rod Hynes, Adam Kruger, Michalis Kallitsis, David G. Robinson, Steve Schultze, Nikita Borisov, and J. Alex Halderman. 2018. An ISP-Scale Deployment of TapDance. In *ANRW '18: Applied Networking Research Workshop, July 16, 2018, Montreal, QC, Canada.* ACM, New York, NY, USA, 1 page. https://doi.org/10.1145/3232755.3232787

ANRW '18, July 16, 2018, Montreal, QC, Canada

ACM ISBN 978-1-4503-5585-8/18/07.
https://doi.org/10.1145/3232755.3232787