Unblocking the Internet: Social networks foil censors
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Many countries and administrative domains exploit their control over the communication infrastructure to block access to online material. We present the design, implementation and evaluation of Kaleidescope, a peer-to-peer system of relays that enables users within a censored domain to access blocked content. An important challenge in the design of Kaleidescope lies in how it can resist the censor’s efforts to block the circumvention system itself. Kaleidescope achieves blocking-resilience using *restricted service discovery* that allows each user to discover a small set of unblocked relays while only exposing a small fraction of relays to the censor. To restrict service discovery, Kaleidescope leverages a trust network in which links reflect real-world social relationships among users. It uses a limited advertisement protocol to disseminate relay addresses along the trust network and forwards traffic via multi-hop relay paths. Our implementation (works for Linux, Windows and Mac environments) addresses several practical challenges in designing and deploying such a system. Kaleidescope is a decentralized solution that is incrementally deployable and evolves in an organic manner. We show that Kaleidescope provides good relay service, even under substantial censor infiltration to the trust network.