Inferring Visibility: Who's (Not) Talking to Whom?

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ABSTRACT

Consider this simple question: how can an Internet network operator identify the set of routes that pass through its network? Answering this question is important yet surprisingly hard. It is important because an accurate answer would significantly improve the security of the Internet, for example by allowing an operator to filter traffic that should not be present in its network. It is hard because directly available information only gives one-sided information: definite knowledge corresponding to observed traffic, but ambiguous knowledge for unobserved traffic. In fact this is an instance of the general problem in which zero values in empirically derived 0-1 matrices are indistinguishable from missing measurements. Because of these challenges, and despite its simplicity and importance, this question has not been previously posed nor addressed in the literature.

This paper references the recent work [1].

BODY

Most network operators don't know what routes pass through their network. They can find out using statistical inference on observed traffic.

REFERENCES

[1] G. Gürsun, N. Ruchansky, E. Terzi, and M. Crovella. Inferring visibility: Who's (not) talking to whom? In *Proceedings of SIGCOMM 2012*, Helsinki, Finland, August 2012.

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