Comments On DNS Robustness

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ABSTRACT

The Domain Name System (DNS) is used to map human-friendly hostnames into network addresses that are in turn used to route traffic across the Internet. DNS lookups are a precursor to much of the communication that traverses the Internet. Therefore, the DNS is a crucial service. In this talk, we will explore the robustness of the DNS ecosystem. We will use the .com, .net and .org zone files from the past nine years to study two basic kinds of robustness. First, we will look at the robustness of individual zones (e.g., how many nameservers does the zone leverage). Second, we will explore how connected DNS zones are to one another. E.g., how many zones end up sharing fate by using the same set of nameservers? In both cases we find soft spots in the DNS ecosystem where robustness can be improved—and, often, at little cost.

KEYWORDS

DNS; measurement; robustness.

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