

## **Abstract**

When a client needs to resolve a domain name, it entrusts a third party, the resolver, to handle the resolution correctly for them. This third party acts as a network middlebox between the client and the end DNS server. In that capacity, the middlebox could alter either the query or the reply to/from the server. NoPASARAN is a generic framework developed at KAUST to detect middleboxes and assess their behavior. It takes advantage of a control channel to increase visibility along the network path between two remote machines. This channel synchronizes the endpoints to perform tests with specifically crafted packets. These tests are represented by scenarios using Finite State Machines that are automatically translated into an interpretable format. We leveraged DNS measurement tests from Netalyzr into NoPASARAN. Employing bind9 as our resolver, the outcomes indicated that the resolver implements the expected features. Looking ahead, additional tests can be developed and integrated into NoPASARAN.