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# Automation and Realistic Topology Generation for Routing Experiments.

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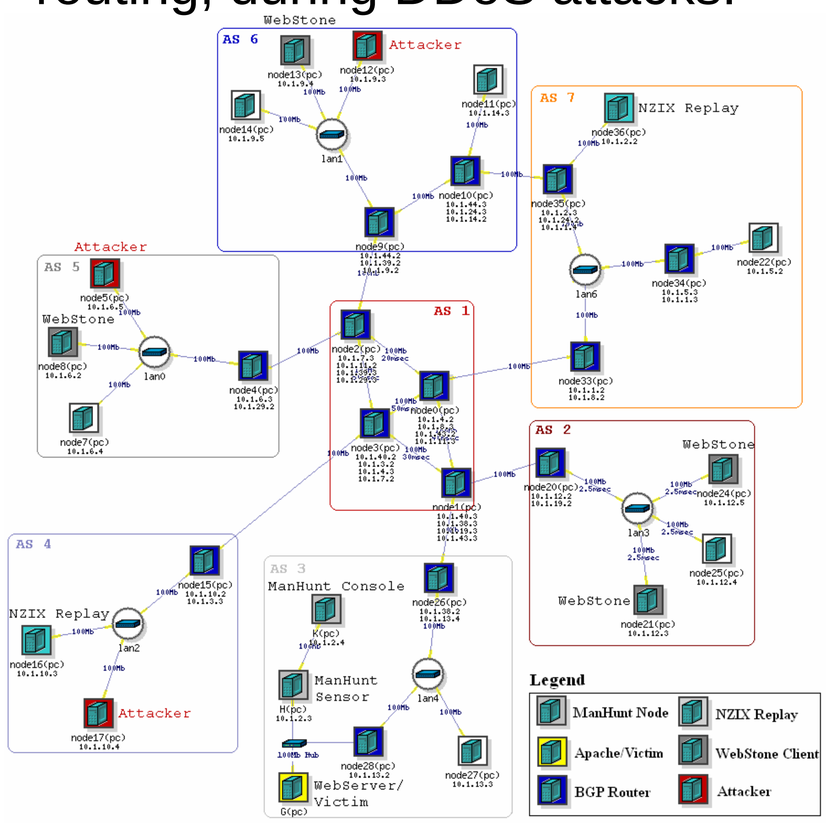
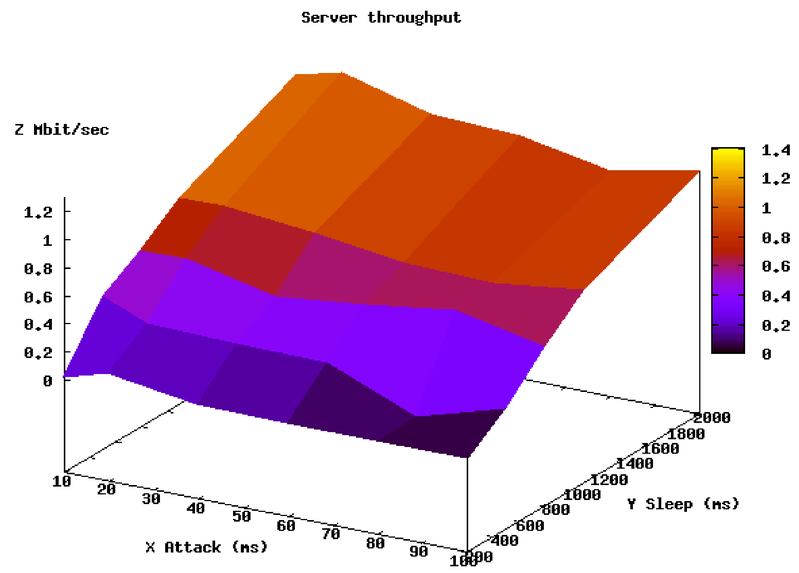
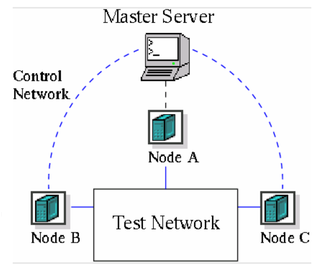
Large scale routing experiments on an emulation testbed require topology generation, extensive router configuration and automated node control. Hence, it is important to have an infrastructure needed for fast experiment creation and automation when studying the indirect side-effects on routing, during DDoS attacks.




Results of a TCP-targeted low rate attack aimed at a Webserver on a manually configured 14 BGP router network comprised out of 7 Autonomous Systems.

Master server processes a series of time sequenced events, causing their execution on the test nodes. The system additionally supports a callback feature where events are triggered upon the completion of previously scheduled tasks.



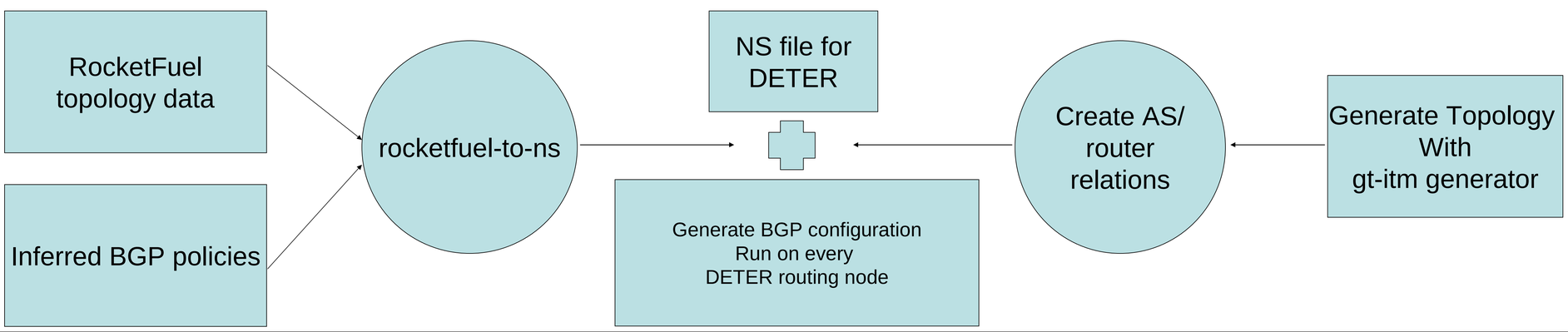

The topology above was hand crafted and manually configured. It takes on an order of a day to create a new medium sized topology; hence, a faster method for generating/configuring realistic topologies is needed.

## Derive a topology from measured data.

- Many sources for ASN-level topologies; RocketFuel actually provides router-level topologies
- Not only that, but for intra-domain links, they provide inferred OSPF weights
- However, no BGP policies; we infer that with Gao's AS inference algorithm

## Derive a topology from a topology generator.

- Create a topology with gt-itm topology generator
- Assign ASes to specific router nodes

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