

Technical Quarterly Report –Jul 2021 - Sep 2021

BASIC PROGRAMMATIC DATA

Performer: University of Twente

Project: 628.001.031(NWO)

Mapping Domain DNS DDoS Vulnerabilities to Improve Protection and Prevention

Period of Performance (base): December 1, 2018 – November 30, 2022

PROJECT PROGRESS

Progress Against Planned Objectives:

Paper “Characterization of Anycast Adoption in the DNS Authoritative Infrastructure” published at TMA2021 (Best Paper Award).

Monthly conference calls between UT and CAIDA are taking place to discuss the project progress.

Technical Accomplishments this Period:

1. We performed a new anycast census (Jul 2021) using Manycast2.
2. We published the data in open access on:
<https://github.com/ut-dacs/Anycast-Census>
3. Designed and implemented a reactive measurement platform for DNS measurement.
4. Measurement for domain under attack are continuously running

Improvements to Prototypes this Period: none

Significant Changes to Technical Approach to Date: none

Deliverables: none

Technology Transition and Transfer this Period: none

Publications this Period:

- Characterization of Anycast Adoption in the DNS Authoritative Infrastructure (TMA2021) – Published
- Hosting Industry Centralization and Consolidation (IMC 2021) – Will be resubmitted to PAM2021

Meetings and Presentations this Period: TMA2021: Characterization of Anycast Adoption in the DNS Authoritative Infrastructure
(<https://indico.dns-oarc.net/event/40/contributions/870/attachments/851/1545/OARC-Anycast.pdf>)

Issues or Concerns: none

PROJECT PLANS

Planned Activities for Year 3:

- Using the data provided by OpenINTEL and combining it with other sources UT will identify the impact of DDoS attacks against DNS.
- UT and CAIDA will design and implement MADDVIPR Framework.

Specific Objectives for Next Period:

UT and CAIDA will work on completing the MADDVIPR Framework.

UT and CAIDA will start to analyze the results from reactive measurements on nameservers under attack.