

# IETF Hackathon

## MUD Table

IETF 106  
Nov. 16-17, 2019  
Singapore



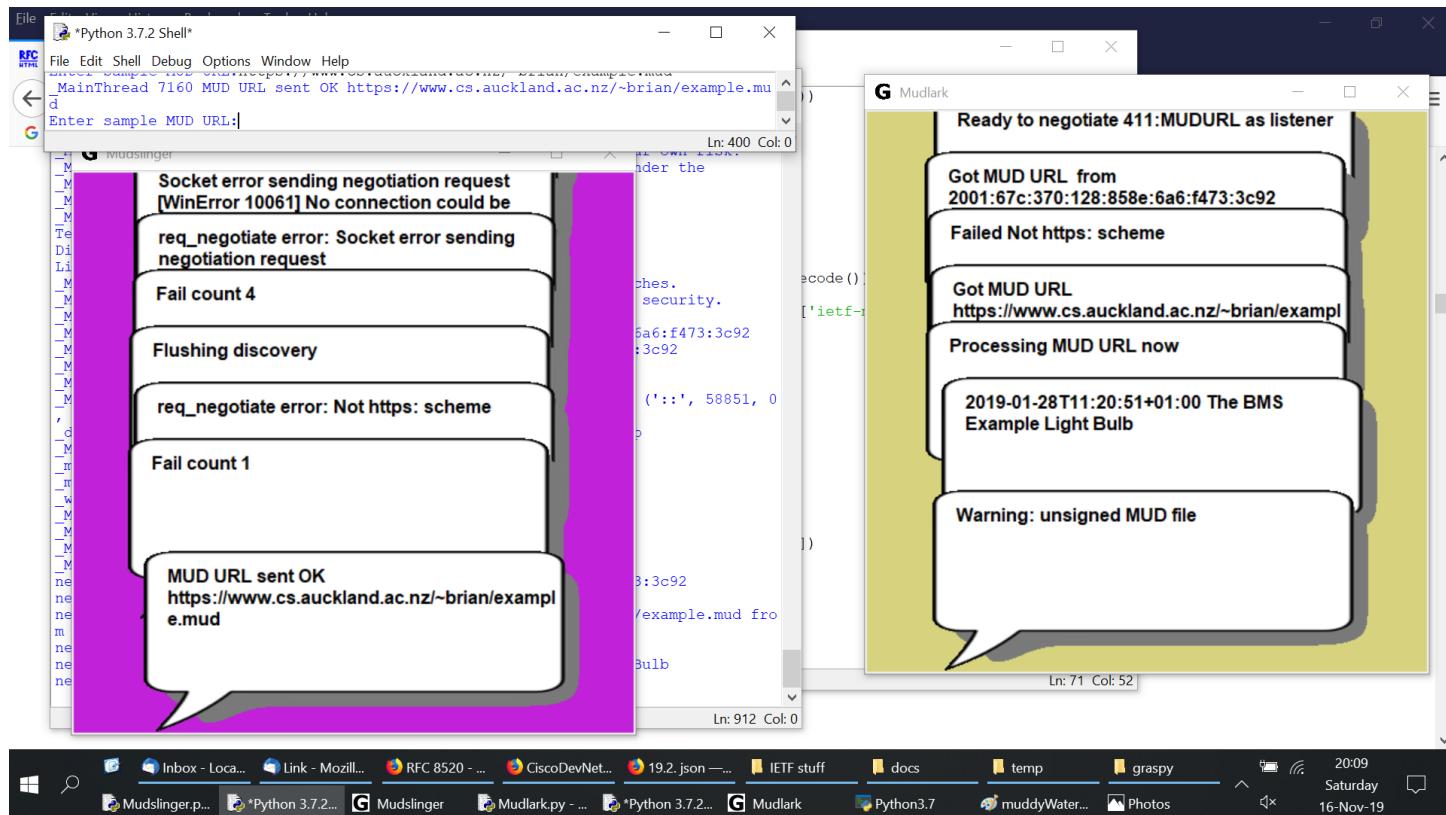
# Hackathon Plan

- Improving MUD visualizer
- Visualizing SECOM Recorder
- Implement MUD in GRASP
- Test Proprietary MUD Manager against various devices and configurations
  - Develop model for using MUD for delegating Dynamic DNS updates

# What got done

- Brian implemented MUD URL in his GRASP implementation in about 30 minutes
  - Passes to a configured MUD manager
- Sávyo built out the visualizer and mostly added URL input capability
- Eliot was debugging a new code base.
- We tested another SECOM MUD device and reviewed an onboarding approach
- Did some modifications to Cisco's MUD Manager for parsing MUD File Extension.

# Grasp.py



IETF Hackathon - MUD

# MUD Approval flows...

The image shows two screenshots of the Cisco MUD (Management, Configuration, and Discovery) interface.

**Left Screenshot (Device Management):**

- Header:** CISCO MUD
- Left Sidebar:** Dashboard, Devices (selected), Group Based Policy Matrix, ACL, Network Elements.
- Section:** Device Management
- Table:** Shows three devices with columns: Sr No., MAC Address, Endpoint Profile, IP Address, and MUD URL.
  - Row 1: MAC aabb.cccc.eeff, Endpoint Profile -, IP Address -, MUD URL http://10.64.69.209:8080/blindv1.json
  - Row 2: MAC aabb.cccc.eeff, Endpoint Profile -, IP Address -, MUD URL http://10.64.69.209:8080/blindv1.json
  - Row 3: MAC aabb.cccc.eeff, Endpoint Profile -, IP Address -, MUD URL http://10.64.69.209:8080/blindv1.json

**Right Screenshot (Policies Associated With http://10.64.69.209:8080/blindv1.json):**

- Header:** CISCO MUD
- Left Sidebar:** Dashboard, Devices (selected), Group Based Policy Matrix, ACL, Network Elements.
- Section:** Policies Associated With http://10.64.69.209:8080/blindv1.json
- Buttons:** < Back, Approve (green), Not Approve (red).
- Table:** Shows policies associated with the specified URL.
  - Row 1: Sr No. 1, Pretty Printed Policies: permit https://www.example.com/light-controllers ip, Deployment Policies: Group Based Policy, ACL Policy. Notes: SGT Click to Add SGT [Device], [Device] Click to Add SGT with ip.
  - Row 2: Sr No. 2, Pretty Printed Policies: permit https://www.example.com/light-controllers ip, Deployment Policies: Group Based Policy, ACL Policy. Notes: SGT [Device], [Device] Click to Add SGT with ip.

# What we learned

- Autonomic Computing needs to think about ad hoc authorization models
- We reinforced that MUD is not meant for:
  - Device configuration
  - Individualized device identification or policy
- Open Source version management is a pain (versions can disappear from web sites). Github hashes are better
- Some Python APIs need help re CMS

# Wrap Up

## Team members:

- Brian Carpenter
- Michael Richardson
- Eliot Lear
- Tadahiko Ito
- Yuichi Takita
- Yohei Kaieda

## First timers @ IETF/Hackathon:

- Sávyo Moraes

## Links:

- <https://github.com/tadahik/MUD-HttpsLocal>
- <https://github.com/CiscoDevNet/MUD-Manager>
- <https://www.mudmaker.org>
- <https://github.com/becarpenter/graspy>

