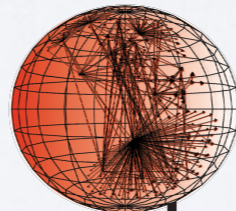


48hrs after the 1st BGP Hackathon

Alberto Dainotti
alberto@caida.org



caida

Center for Applied Internet Data Analysis
University of California, San Diego

BGP HACKATHON 2016

<https://www.caida.org/workshops/bgp-hackathon/1602/>

- **6-7 February 2016** (weekend before NANOG 66)
- San Diego Supercomputer Center, **UC San Diego**
- **Theme: *live BGP measurements and monitoring***
- 90 Attendees
 - 50 competing participants
 - 30 graduate students
 - 25 non-competing experts
 - Mix of Academia, Industry, Institutions
 - 15 teams!



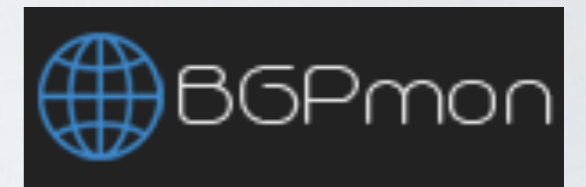
SDSC SAN DIEGO
SUPERCOMPUTER CENTER



ORGANIZERS & PLATFORMS

github.com/CAIDA/bgp-hackathon/wiki/Platforms-Documentation

- Stable and experimental **data sources**
 - MRT files from *RIPE RIS*, *Route Views*
 - Also streamed through *BGPStream*
 - Cassandra Cluster - *BGPMON*
 - Kafka live feeds
 - json from new experimental *RIPE RIS*
 - BMP from *Route Views*, *Cisco*, *Randy Bush*
- **Testbed** emulating ASes on the actual Internet - *PEERING*
- **Software framework** for BGP monitoring and data analysis - *BGPStream*
- Unified Interface to **Looking Glasses** - *PERISCOPE*
- **Active Probing** infrastructure
 - *RIPE Atlas*, *CAIDA Ark*
- *Comet* **Supercomputer**
 - 1944 compute nodes. Each: 24 CPUs, 128GB RAM



SPONSORS

THANK YOU!



MANDATORY PIC OF FOLKS WITH LAPTOPS LOCKED IN A ROOM



MEASUREMENT/MONITORING...



...IS CHALLENGING

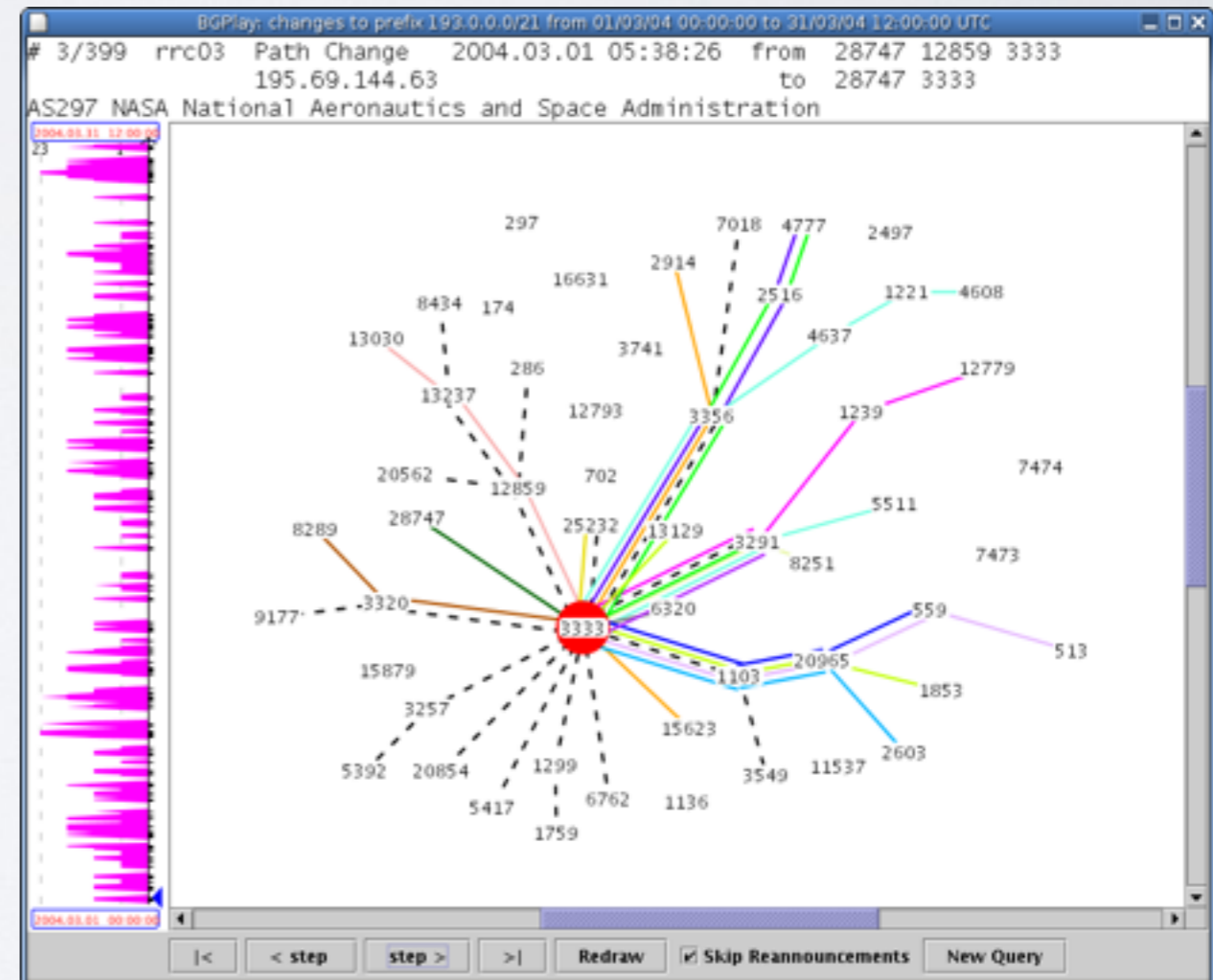
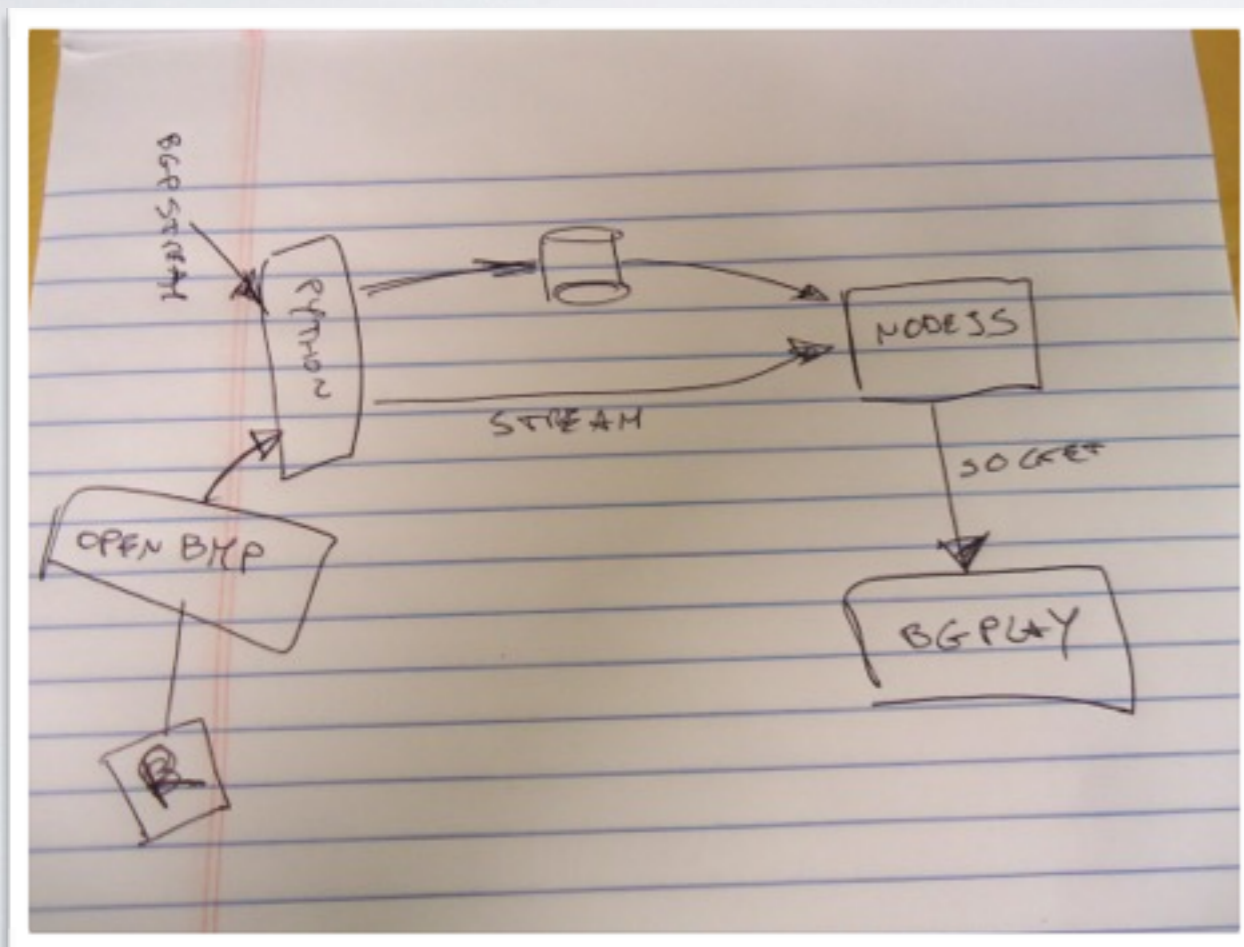


VIZ-2

TEAM

- 1 Massimo Candela, RIPE NCC
- 2 Maite Gonzalez, Universidad de Chile
- 3 Saif Hasan, Facebook
- 4 Francesco Benedetto, Roma Tre University

- Easily deployable BGPlay installation
- Data collector for **private** and public BGP data
- Real-time streaming and visualization

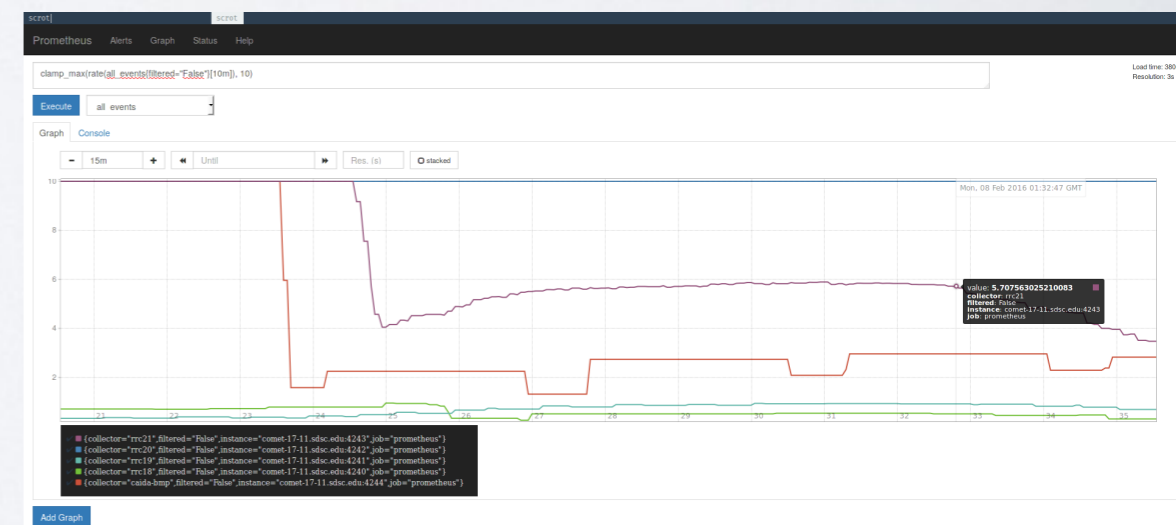
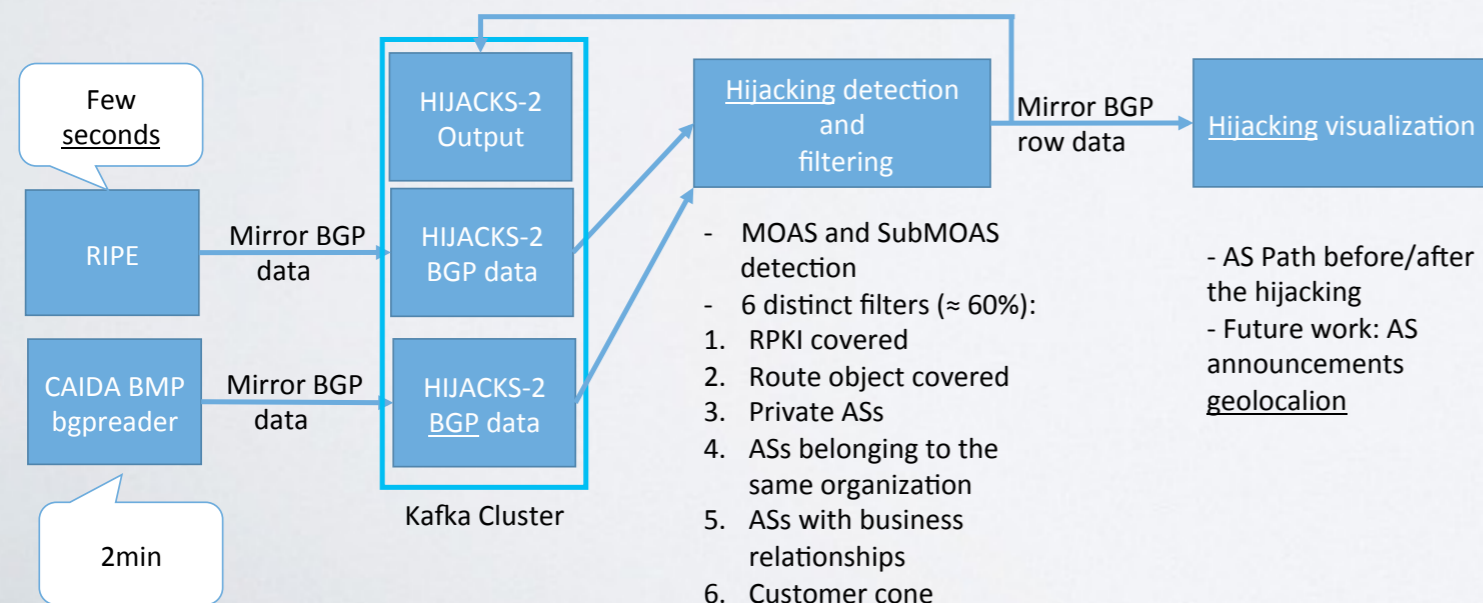


HIJACKS-2

TEAM

- 1 Ruwaifa Anwar, Stony Brook University, New York
- 2 Danilo Cicalese, Telecom ParisTech
- 3 Nicolas Vivet, FNISA
- 4 Kaname Nishizuka, NTT Communications
- 5 Danilo Giordano, Politecnico di Torino
- 6 Charles Brock, ICASA / NMT
- 7 Bruno Machado, Universidade Federal de Minas Gerais

- MOAS and “SubMOAS” detection
- Implemented new rules to filter out benign cases
- Used CAIDA BMP, RIPE RIS stream and PEERING
- Monitor on control plane and data plane
- **Open source** project available at github: <https://github.com/CAIDA/bgp-hackaton/tree/Hijacks-2>



BGPSTREAM-1

TEAM

Shane Alcock, University of Waikato

BGPStream-1

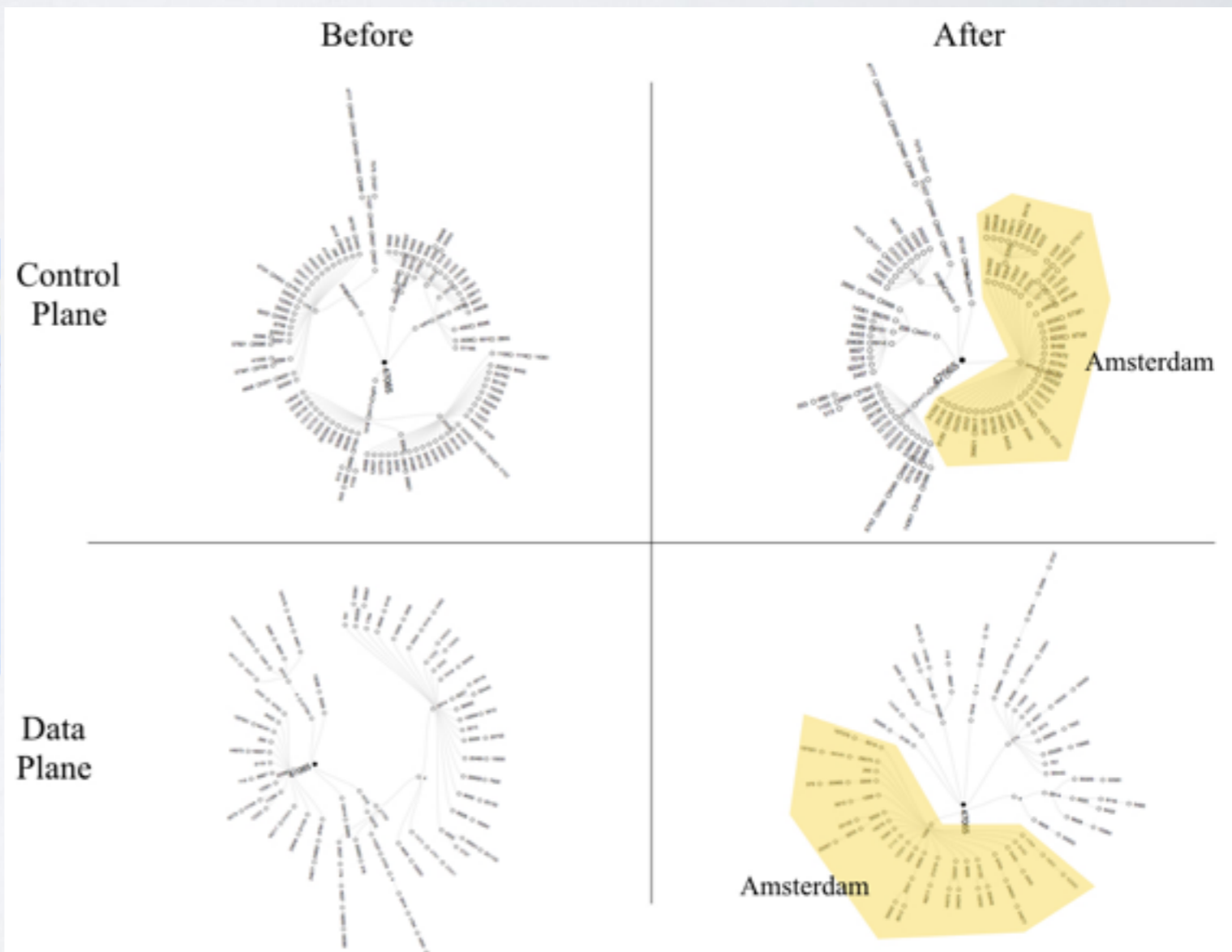
- Improved filtering / usability for BGPStream
- Created BPF-style language for describing filters
 - “project ris and collector rrc03 and prefix exact 205.107.140.0/24”
 - One CLI option, one API call
- New element properties to filter on
 - Element type, IP version, exact prefix match, less specific prefix
 - AS Path (using regular expressions)
- Add new method for specifying time period
 - “3 h” = give me the last three hours
 - “15 m” = give me the last 15 minutes

ANYCAST-I

TEAM

- 1 Ricardo Schmidt, University of Twente
- 2 Wouter de Vries, University of Twente
- 3 Azzam Alsudais, CU Boulder
- 4 Roya Ensafi, Princeton University
- 5 Nick Wolff, OARnet

- Used the PEERING testbed to emulate a service that uses anycast
- Set up 7 muxes for the chosen prefix
- Used RIPE atlas probes to repeatedly traceroute to the prefix from different geographic locations
- Then, announced this prefix from the muxes. Waited for a while and then after sometimes terminated the most popular mutex.
- Used both traceroutes and a BGP RIPE collectors (looking glasses) to monitor the changes.



REPORTS ETC. WILL FOLLOW

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