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3 CAIA Research Projects in 10 Minutes

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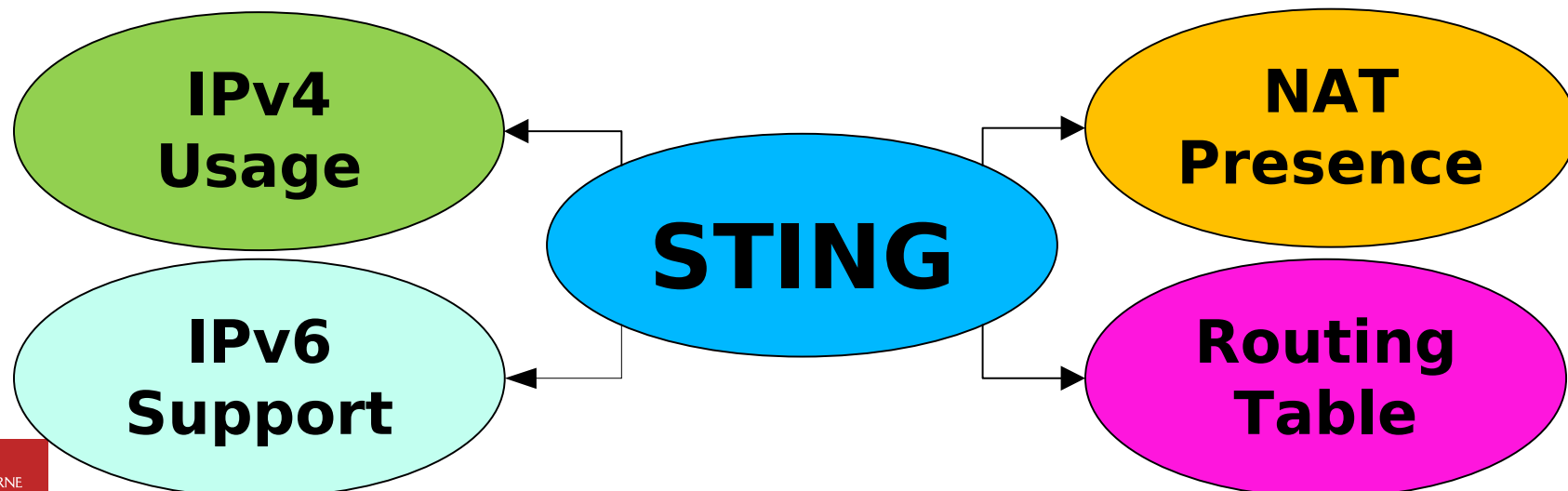
Centre for Advanced Internet Architectures
(CAIA)
Swinburne University of Technology



Surveying *The IN*ternet's Growth



- ARC Linkage Project:
 - CAIA: Sebastian Zander, Lachlan Andrew, Grenville Armitage
 - APNIC: Geoff Huston, George Michaelson
- <http://caia.swin.edu.au/sting/>



Surveying *The IN*ternet's Growth



- Most v4 allocated, but how much is in **use**?
- Hard to measure... active/passive measurement, external data sets, stats magic
- Challenges:
 - Unresponsive hosts, NATs/firewalls, dynamic addresses, etc.
- You can help!
 - Data sets, deployment/operational experience & policy, observations from the coal face

Multipath TCP for FreeBSD



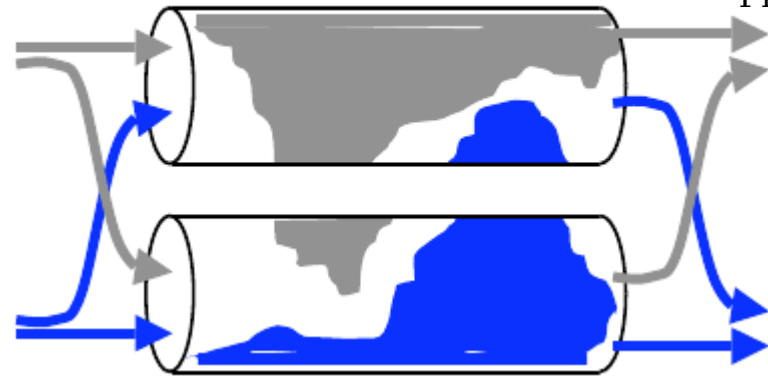
- **NewTCP**: broader context for MPTCP work
 - CC algorithms (HTCP, Vegas, CUBIC, HD, CHD, CDG), frameworks (mod_cc, khelp/hhook), tools (SIFTR, DPD)
 - Various incarnations supported by Cisco
- <http://caia.swin.edu.au/urp/newtcp/mptcp/>
- In a nutshell:
 - Network resource pooling (win for operators?)
 - Session continuity (win for mobile)

Multipath TCP for FreeBSD

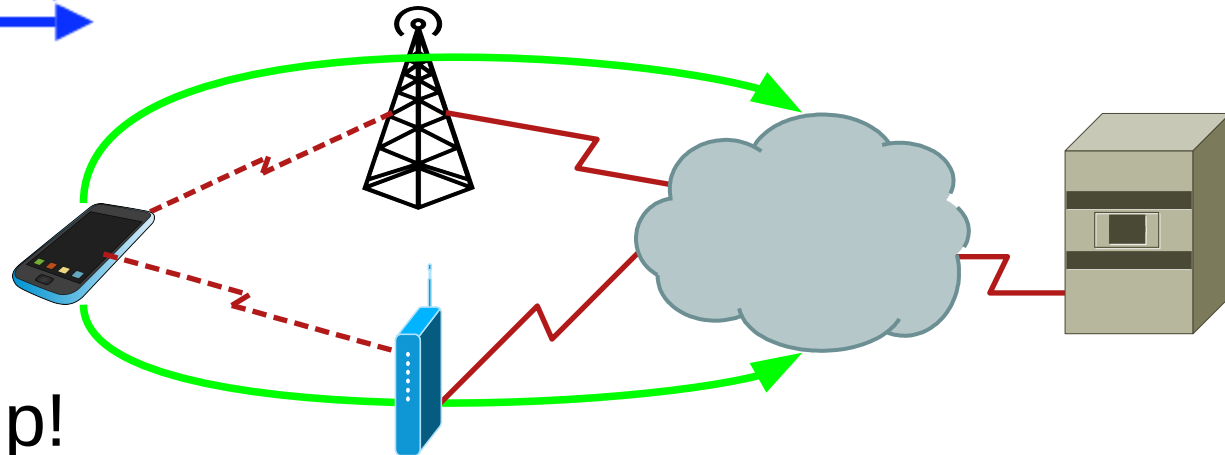


Multipath resource pooling:

From <http://www.ietf.org/proceedings/08jul/slides/tsvarea-2.pdf>



Session continuity:



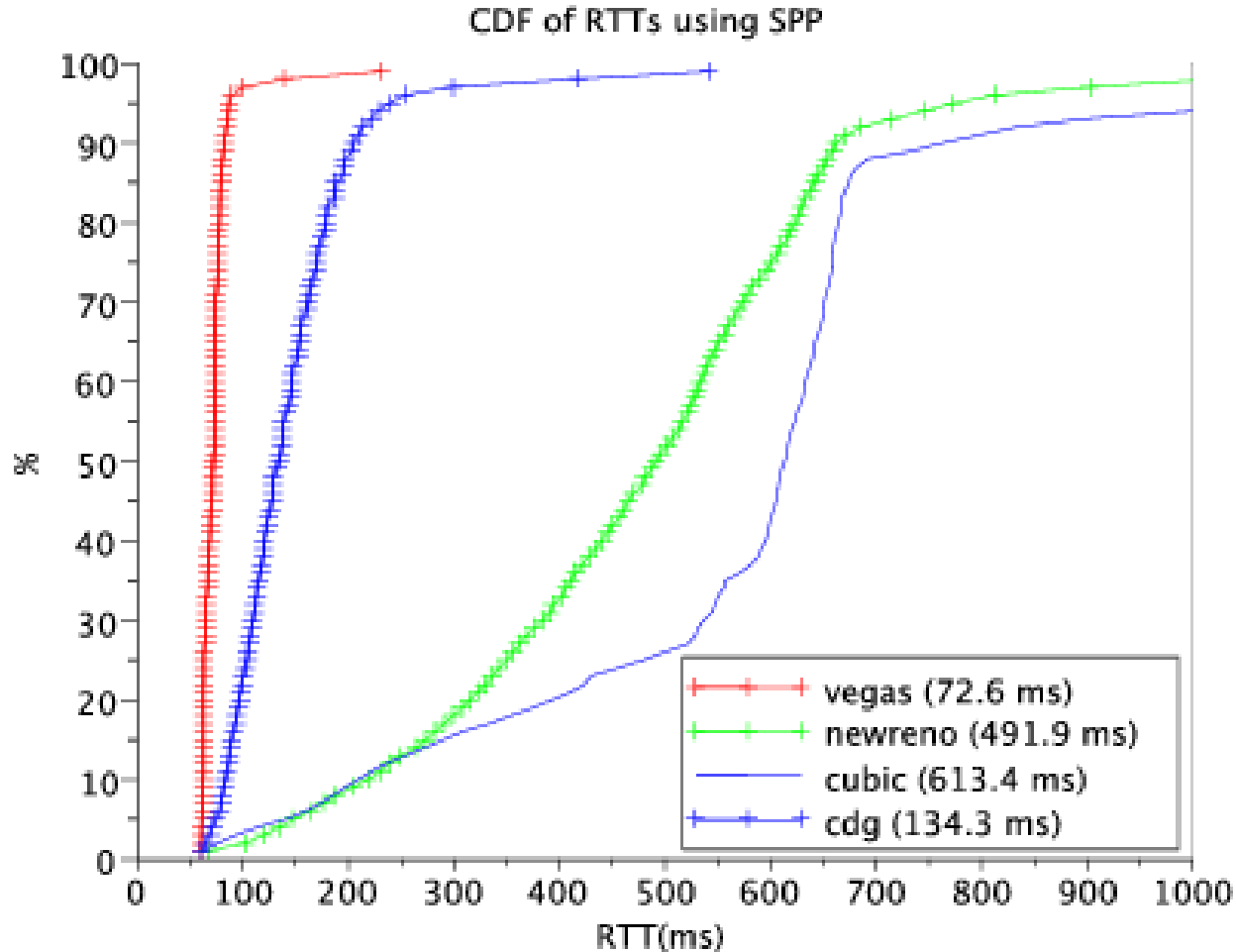
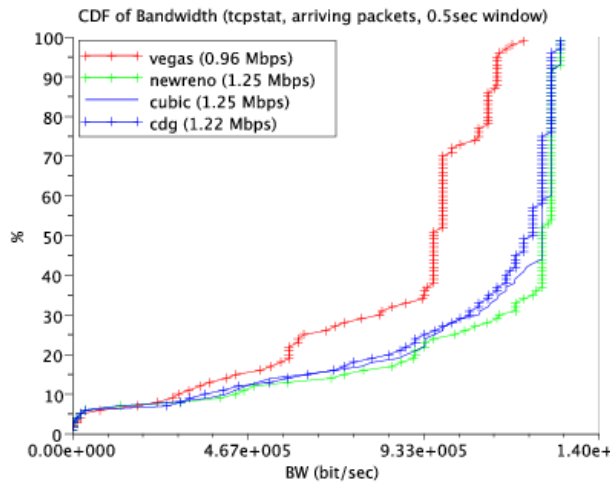
■ You can help!

- Testing (content pushers, vendor interop), collaborative research (scheduling & retransmission policy, congestion control)

CDG: A Modern Congestion Control



- <http://caia.swin.edu.au/urp/newtcp/>



- If you push data via TCP, you can help!

Research @ CAIA



- Seamlessly Integrated Broadband Services
- Intelligent Transport Systems
- Energy Efficient Society (through/because of telecomms)

<http://caia.swin.edu.au>