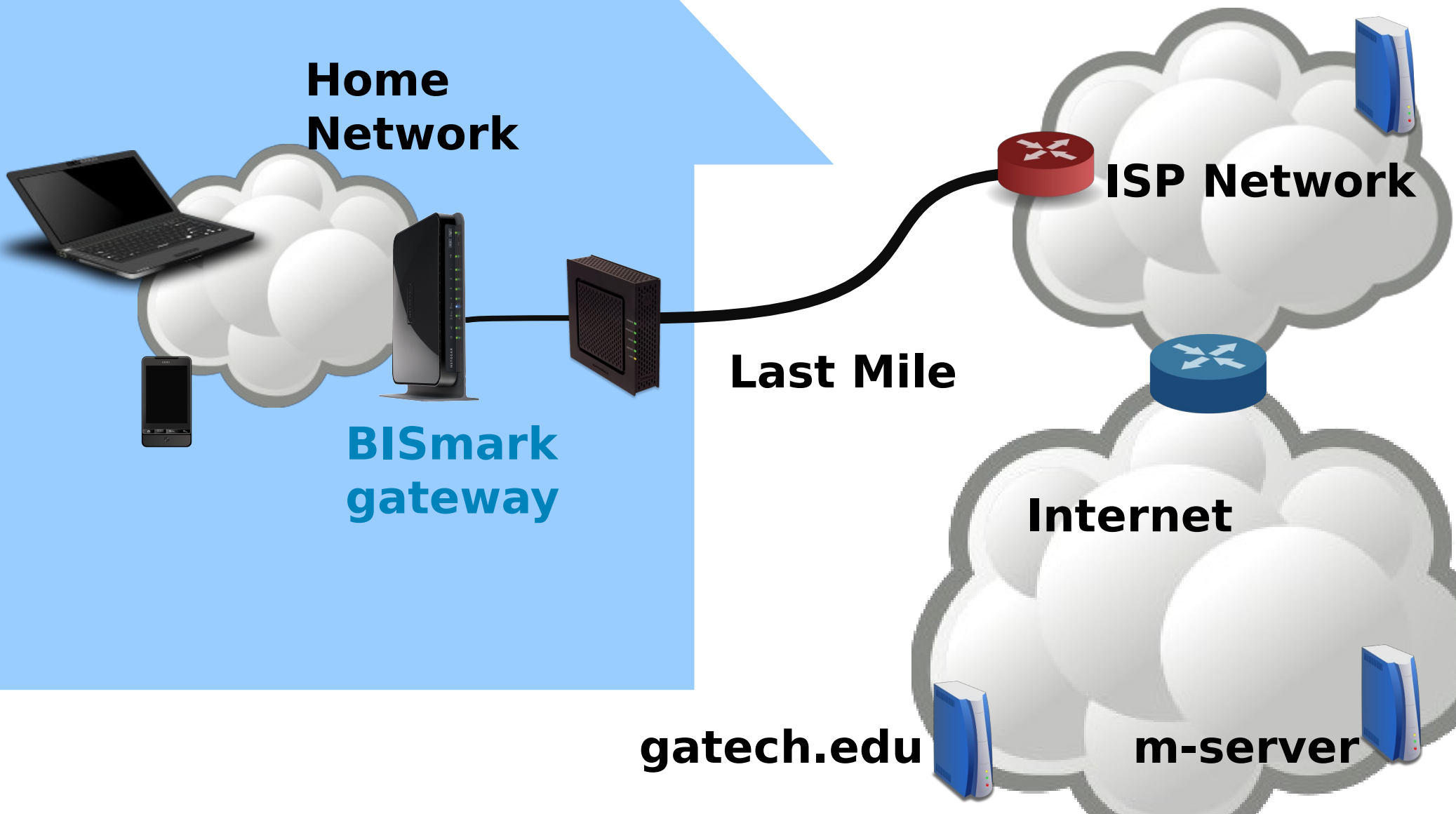




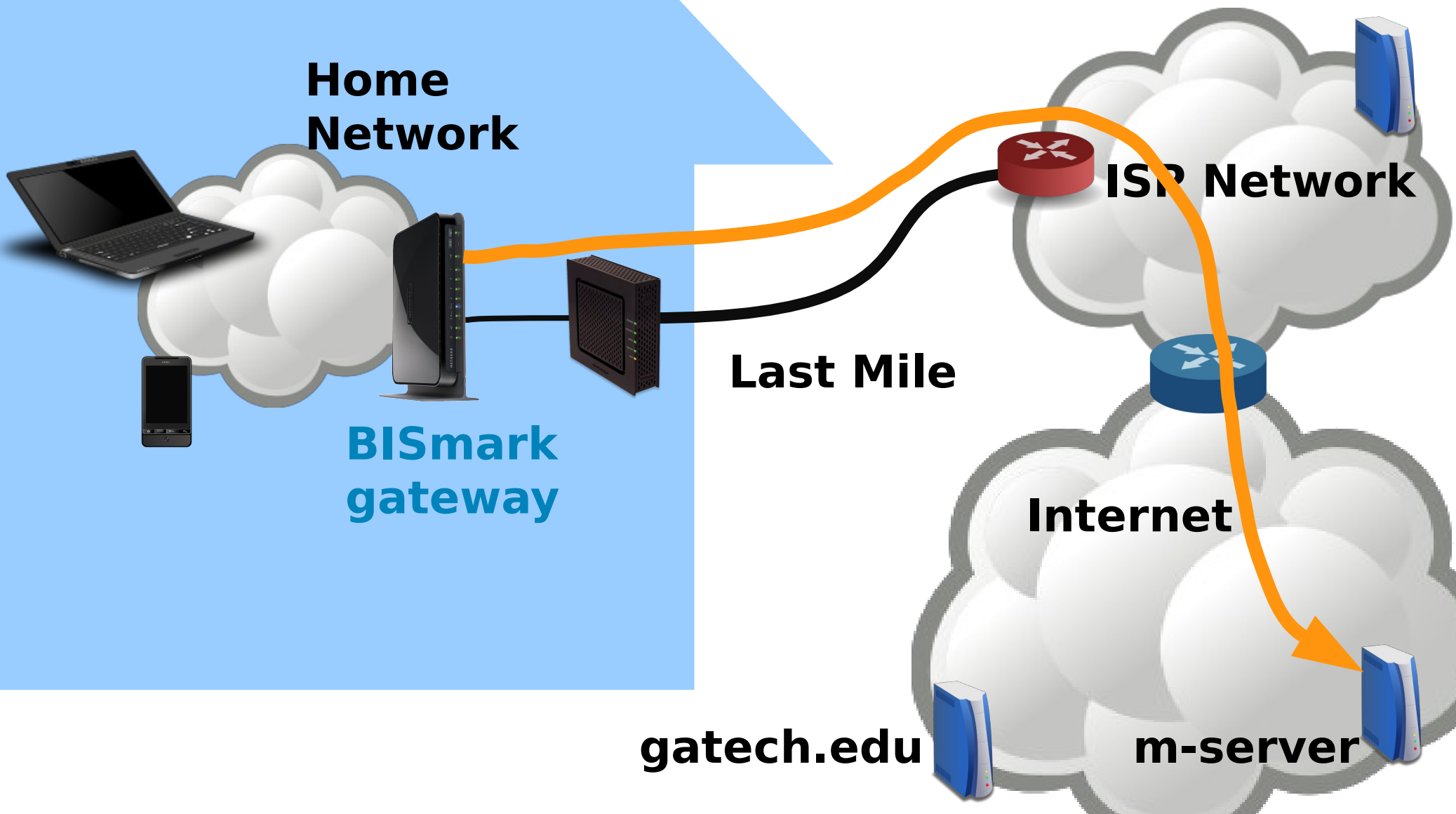
BISmark
projectbismark.net

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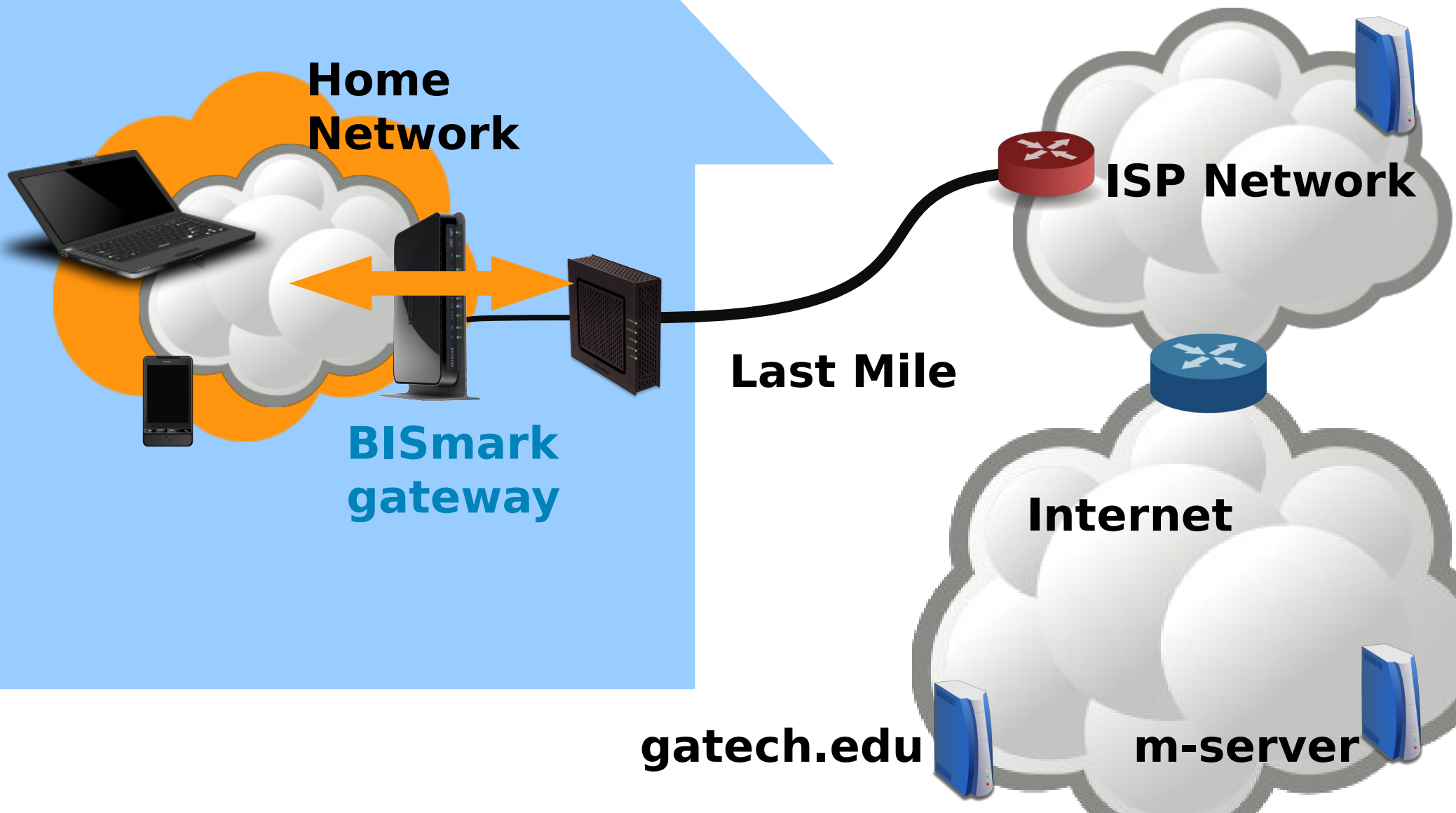
What is BISmark?



What is BISmark?



What is BISmark?



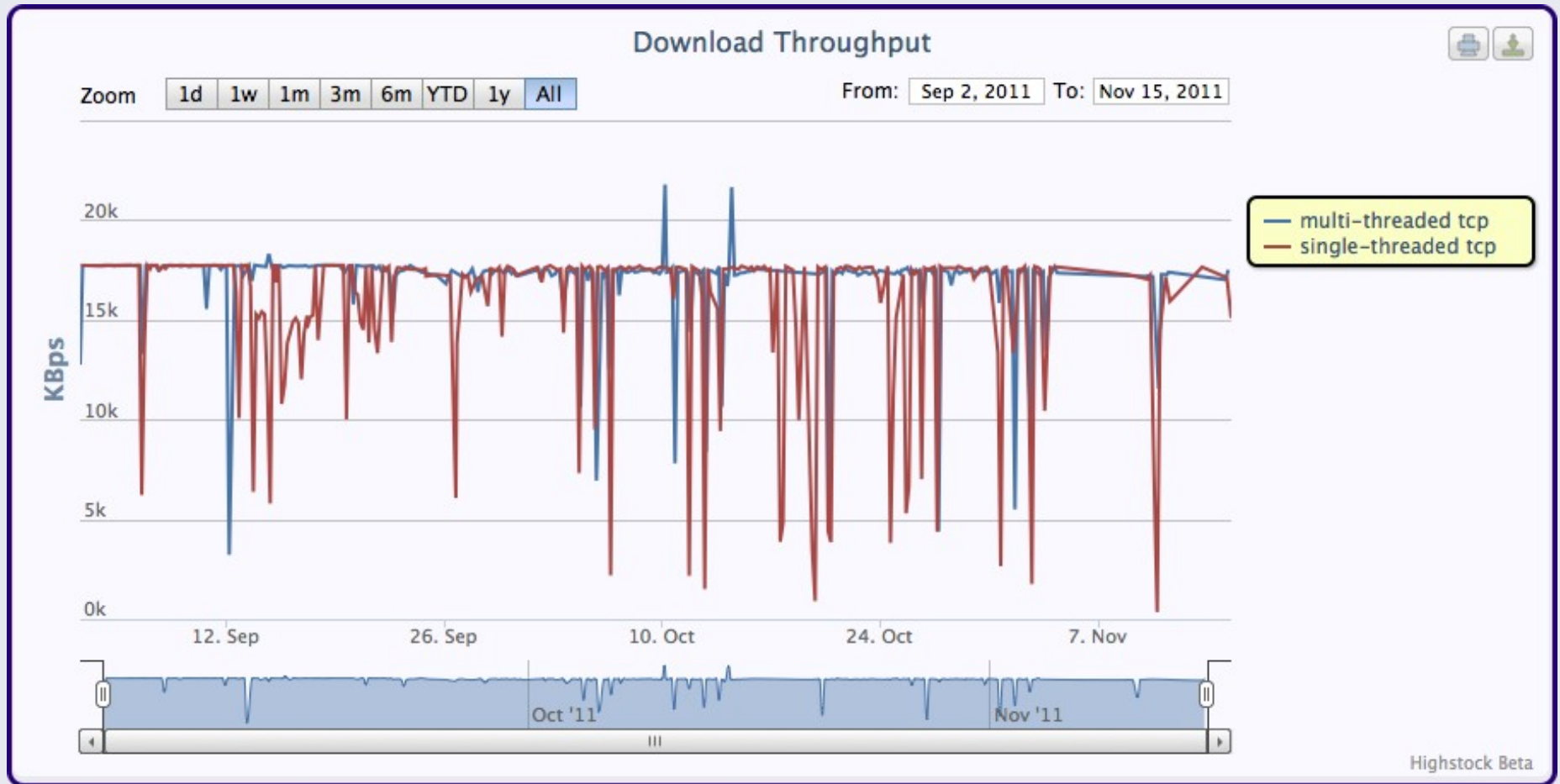
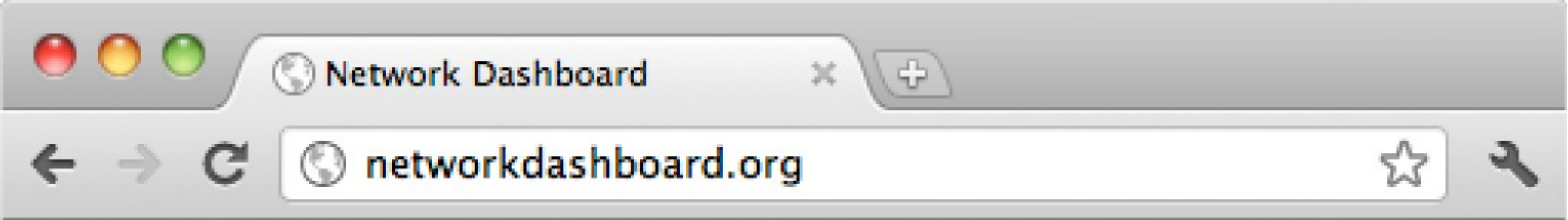
What is BISmark?

- A platform for home network & broadband research
 - Continuous, “unconfounded” active measurements from the gateway
 - Instrumenting & understanding home networks
- Open development approach
 - Open source & free software
 - Understand/repeat/reuse/fork
 - <http://wiki.projectbismark.net> for github links

BISmark platform

- Router: Netgear WNDR3700/3800
 - 64/128 MB RAM, 16 MB flash
 - Openwrt image with BISmark packages
 - netperf, shaperprobe, iperf, D-ITG, pings, traceroutes, nslookup, \$YOUR_FAVORITE_TOOL
- Measurement Servers
 - Source/sink traffic from router tools
- Control server
 - Device configuration, measurement coordination, data collection, remote access





Downstream throughput, 12/2 Mbps DOCSIS3, Atlanta GA

Deployment status



55 known (📍) / 21 "unknown" (📍) routers,
40 ASes, 32 providers, 8 countries, 17 US states
(*but... mostly US, mostly GA, mostly Comcast*)

Research using BISmark

- Publications: SIGCOMM 2011, HomeNets 2011
- Ongoing active measurements
 - TCP throughput, capacity & shaping, latency, jitter, loss, DNS failure & delay
 - Continuous data since October 2011
- Ongoing work
 - “custom” active measurements (web, DNS, CDN/TE/interconnection)
 - passive measurement, HCI study, wireless

BISmark in 2012

- M-Lab measurement targets
 - Increasing capacity and TCP throughput measurement
- Engineering for validity, reliability, rapid iteration
- Growing our deployment
 - Greater diversity, and outside of North America
 - Participants wanted!
- Supporting external experiments
 - Short term: special, vetted packages/scripts
 - Long term: sandboxed Lua, measurement API

Seeking collaborators

- Custom experiments
 - Package and run custom tools, script existing tools – we're open to many ideas (within reason)
 - What do you want to do with BISmark?
- Co-host a regional/focused deployment
 - Leverage our platform
 - Manage users, experiments
- Active data analysis



BISmark
projectbismark.net

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- Sam Crawford
- Dave Taht
- Sam Burnett
- other developers and volunteers

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