

# Bandwidth Test Controller (BWCTL)

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# *Outline*

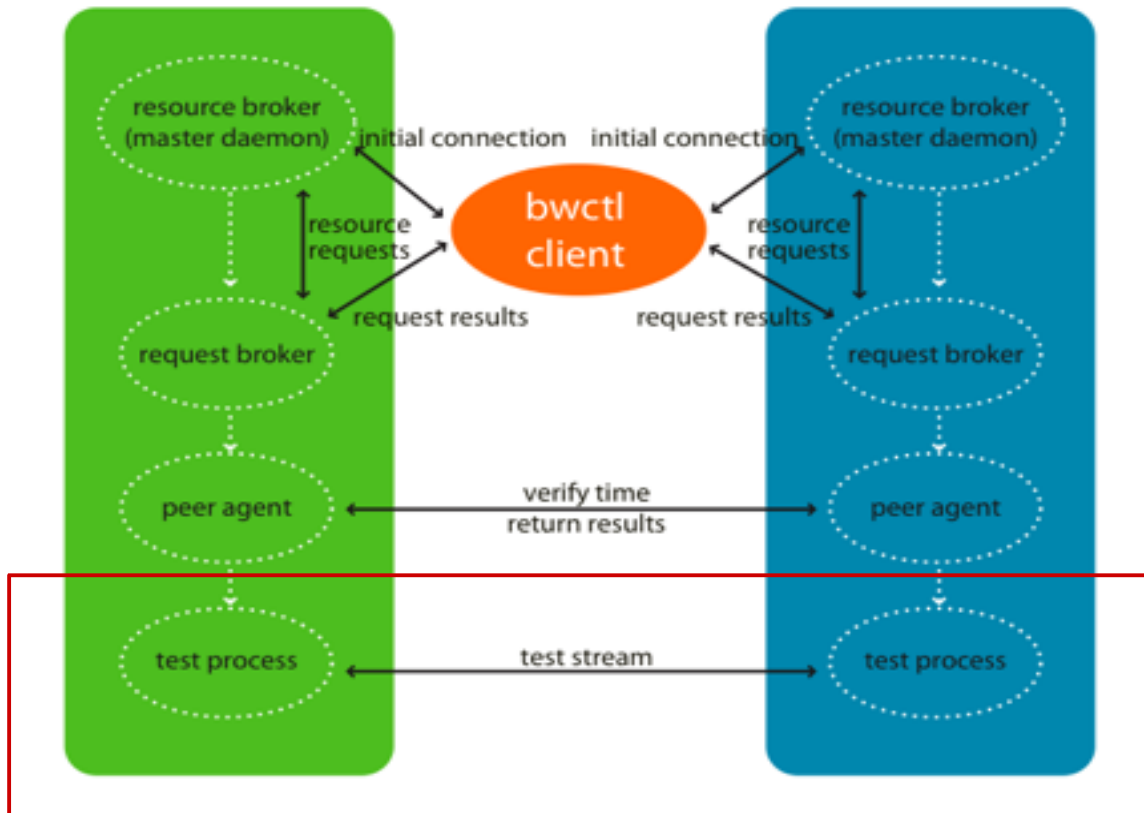
- Introduction
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# *Introduction*

- BWCTL is a command line client application and a scheduling and policy daemon that wraps the throughput testing tools Iperf, Thrulay, and Nuttcp.
- The bwctl client application works by contacting a bwctld process on the two test endpoint systems.
- BWCTL will work as a 3-party application. The client can arrange a test between two servers on two different systems.

# iperf





## *iperf(cont.)*

- Iperf a tool to measure maximum TCP and UDP bandwidth, allowing the tuning of various parameters.
- Iperf reports bandwidth, delay jitter, datagram loss.

# *iperf(cont.)*

- Install
  - Windows
    - [iperf.exe](#) (iperf version 1.7.0)
  - Linux
    - [iperf-2.0.4.tar.gz](#)
      - # ./configure
      - # make
      - # make install



# *iperf(cont.)*

- Server side :
  - \$iperf -s
    - Run in server mode
  - \$iperf -s -D
    - Run the server as a daemon
- Client side :
  - \$iperf -c <host>
    - Run in client mode, connecting to <host>

# *iperf(cont.)*

- Client/Server options
  - -f, --format [kmKM]
    - Format to report: K bits, M bits, K bytes, M bytes
  - -m, --print\_mss
    - Print TCP maximum segment size
  - -M, --mss #
    - Set TCP maximum segment size
  - -w, --window #[KM]
    - TCP window size (socket buffer size)



# *iperf(cont.)*

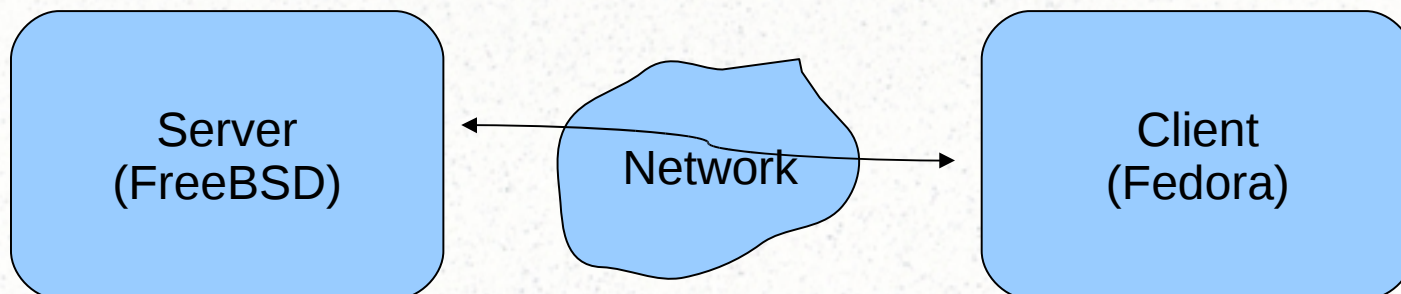
- Client/Server options
  - -p, --port #
    - Server port to listen on/connect to
  - -i, --interval #
    - Seconds between periodic bandwidth reports
  - -u, --udp
    - Use UDP rather than TCP
  - -V, --Ipv6Version
    - Set the domain to Ipv6

# *iperf(cont.)*

- Client options :
  - -b, --bandwidth #[KM]
    - For UDP, bandwidth to send at in bits/sec
  - -t, --time #
    - Time in seconds to transmit for (default 10 secs)
  - -P, --parallel #
    - Number of parallel client threads to run



# Demo



Server

IPv4 : 10.10.59.150

IPv6 : 2001:e10:6840:21:211:d8ff:fe27:9142

Client

IPv4 : 10.10.21.156

IPv6 : 2001:e10:6840:21:21d:60ff:fe6b:2169

# *Reference*

- BWCTL
  - <http://www.internet2.edu/performance/bwctl/index.html>
- iperf.sourceforge.net
  - <http://iperf.sourceforge.net/>
- JPerf 2.0.2
  - <http://code.google.com/p/xjperf/>