



Web10G

A Web100 Follow On to Implement RFC4898
From The Pittsburgh Supercomputing Center

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Web100: Web10G's Father

- Why Web100?
 - if there is a network performance problem, why not ask TCP about the problem? Expose all of TCP's hidden machinery and "look under the hood"
- KIS
 - Expose 120 parameters with 1 line of code via ABI based on /proc
 - Kernel patch allows researchers to observe TCP behavior in situ
- Userland
 - Uniform API to access instruments
- Autotuning
 - Make TCP fix its own problems.
 - Implemented as a self adjusting receive buffer
 - Incorporated into Linux, OS X, Windows and more

Why Web10G?

- Web100 has limitations
 - Kernel patch not suitable for mainline inclusion
 - Only supports 30K connections due to /proc interface
 - KIS doesn't match RFC 4898 – the primary deliverable from Web100
- Web10G will include
 - Dynamical Loadable Kernel Module (DKLM)
 - Compliance to RFC 4898
 - New interface will not be based on /proc
 - Rewritten using community input to elevate code to highest standards.
- Goal: Inclusion into Linux Mainline
 - Ubiquity brings opportunity.

Web10G and the Internet

- Web100 used as basis for network diagnostic tools
 - NPAD
 - NDT
 - Mlab (Google, I2, PlanetLab, &c)
- Web10G Will provide a more powerful tool capable of monitoring 100Ks connections simultaneously.
 - Allows for enterprise distribution
 - New tools to monitor/tune/detune connections in real time
 - Intra-application diagnostics and troubleshooting
- Web10G needs community input/testers/users!
 - Web10G.org
 - Grab the kernel patch & userland and try it out.