



Stuffing a 900lb Gorilla into a SmartPhone

Joel Maher & Clint Talbert

Mozilla Corporation

What is Fennec?





How are they going to fit
me in here?

How are they going to fit
me in here?

- XPCShell - low level XPCOM testing

How are they going to fit
me in here?

- XPCShell - low level XPCOM testing
- Reftest - rendering testing

How are they going to fit
me in here?

- XPCShell - low level XPCOM testing
- Reftest - rendering testing
- Crashtest - regression testing for crash bugs

How are they going to fit
me in here?

- XPCShell - low level XPCOM testing
- Reftest - rendering testing
- Crashtest - regression testing for crash bugs
- Mochitest - JS test framework heavily modified to do general purpose content testing

How are they going to fit
me in here?

- XPCShell - low level XPCOM testing
- Reftest - rendering testing
- Crashtest - regression testing for crash bugs
- Mochitest - JS test framework heavily modified to do general purpose content testing
- Mochitest-Chrome - Chrome UI interaction testing

How are they going to fit
me in here?

- XPCShell - low level XPCOM testing
- Reftest - rendering testing
- Crashtest - regression testing for crash bugs
- Mochitest - JS test framework heavily modified to do general purpose content testing
- Mochitest-Chrome - Chrome UI interaction testing
- Mochitest-Browser - White box UI automation testing

How are they going to fit
me in here?

- XPCShell - low level XPCOM testing
- Reftest - rendering testing
- Crashtest - regression testing for crash bugs
- Mochitest - JS test framework heavily modified to do general purpose content testing
- Mochitest-Chrome - Chrome UI interaction testing
- Mochitest-Browser - White box UI automation testing
- Mozmill - Black box UI automation (not ready for Fennec yet)

How are they going to fit
me in here?

Platforms



Platforms

Platforms



Let's Go Digital

vercodigital

Platforms

Platforms



Platforms

Platforms



Platforms



Roadmap

Fennec Test Automation



dholbert@mozilla.com - Mon Jul 20 15:30:04 2009 00

02ff5f05a1a6 Daniel Holbert - Bug 504934: [An](#) Linux B* B L U M E T
Mac OS X B* L U M E T
Windows B L* U

smichaud@pobox.com - Mon Jul 20 15:11:10 2009 00

860db9cc9e2b Steven Michaud - [OSX] [An](#) Linux B* B L U M E T T T T
Mac OS X B L* U M E T T T T T T T T T
Windows B L* L U M E

neil@parkwaycc.co.uk - Mon Jul 20 13:04:59 2009 00

d347a454b338 Neil Rashbrook - Bug 504660 [An](#) Linux B B B B L L* U U M M E E T T T T T
T T S
Mac OS X B B* L* L U U M M E E T T T T T T
Mac OS X B B* L* L U U M M E E T T T T T T
Linux B B B B G G U U M M E E T T T T T

Test Reporting

Current Approach

- Running tests on desktop build
- Decoupling the tests
- Making tools mobile
- Breaking tests into small pieces
- Stabilizing end to end
- Reducing the runtime
- Tracking results

Decoupling the Tests

- Historically, tests integrated into build system
- Required directory structure and tools
- Created makefile target to package tests into a tarball for easy distribution

Making Tools Mobile

- Python requirements for each platform
- Networking test tools (ssl, http server)
- Test harness scripts had hard coded paths
- Limited memory and storage

Breaking Tests into Chunks

- Cannot run full test harness at once
- Chunks based on directories
- Managing test data, manifest and log files

Stabilizing End to End

- Modifying test harness to look for a hang
- Collecting log files
- Getting the same results over and over again
- Device stabilization

Reducing Total Runtime

- Initial runtime for all tests end to end was 26 hours
- Test on release and optimized builds only, no debug (13 hours)
- Running on 4 devices in parallel (4 hours)
- Increasing pool to 8 devices balances parallel overhead with long tests

Tracking Results

- Instead of one log file per test suite, we now have hundreds
- Initially we would concatenate the logs and parse them for a summary
- Upload log chunks to CouchDB server



Get the source:

<http://wiki.mozilla.org/mobile/QAOSCON09>

Questions?
Thank you

jmaher@mozilla.com
ctalbert@mozilla.com

Photo Credits

- Gorilla Photo: http://www.wrybaby.com/blog/wp-content/uploads/2008/09/gorilla_phone_1.jpg
- HTC Touch Pro: <http://www.letsgodigital.org/en/19174/htc-touch-pro/>
- Nokia e71: <http://www.flickr.com/photos/normanjohn/2645312857/>
- Nokia n810: <http://168hours.wordpress.com/2008/08/10/10-coolest-devices-running-linux/>
- Samsung Omnia: http://www.gsmarena.com/samsung_i900_omnia-pictures-2422.php
- Our Mobile Tinderbox: <http://www.flickr.com/photos/drkscrtlv/sets/72157619162182878/>
- Signpost: <http://www.flickr.com/photos/jmcphotos/2131206015/>