Measurements:

export QT_VIDEO_FORMAT=1080p
export QT_QPA_EGLFS_PHYSICAL_WIDTH=1280
export QT_QPA_EGLFS_PHYSICAL_HEIGHT=720
QT_QPA_EGLFS_HIDECURSOR=1 WEBKIT_SHOW_FPS=1 qtbrowser --tiled-backing-store –url=

EOS Board

Buildroot/QT5.4.1/Nexus V15.1 release/Proxy mode/No refsw_server		
TYPE	No tile-backing	With tile-backing
Canvas Test (1 min)	44 FPS / 27% CPU	59 FPS / 30% CPU
(5 min)	46 FPS / 28% CPU	60 FPS / 29% CPU
WebGL	61 FPS / 19% CPU	61 FPS / 17% CPU

Buildroot/QT5.4.1/Nexus V14.4 release/Proxy mode/No refsw_server		
TYPE	No tile-backing	With tile-backing
Canvas Test (1 min)	42 FPS / 32% CPU	60 FPS / 34% CPU
(5 min)	45 FPS / 32% CPU	60 FPS / 34% CPU
WebGL	60 FPS / 21% CPU	60 FPS / 22% CPU

Dawn Board

Buildroot/QT5.4.1/Nexus V15.1 release/Proxy mode/No refsw_server/7000		
TYPE	No tile-backing	With tile-backing
Canvas Test (1 min)	42 FPS / 51% CPU	47 FPS / 52% CPU
(5 min)	43 FPS / 51% CPU	47 FPS / 49% CPU
WebGL	61 FPS / 29% CPU	61 FPS / 32% CPU

Buildroot/QT5.2.1/Nexus V12.4 release/Proxy mode/No refsw_server/7000		
TYPE	No tile-backing	With tile-backing
Canvas Test (1 min)	30 FPS / 53% CPU	36 FPS / 53% CPU
(5 min)	35 FPS / 53% CPU	38 FPS / 50% CPU
WebGL	50 FPS / 34% CPU	48 FPS / 33% CPU

Buildroot/QT5.4.1/Nexus V12.4 release/Proxy mode/No refsw_server/7000		
TYPE	No tile-backing	With tile-backing
Canvas Test (1 min)	32 FPS / 50% CPU	36 FPS / 52% CPU
(5 min)	34 FPS / 51% CPU	37 FPS / 49% CPU
WebGL	50 FPS / 21% CPU	49 FPS / 35% CPU

Raspberry-Pi 2

Buildroot/QT5.4.1/1GHz clock		
TYPE	No tile-backing	With tile-backing
Canvas Test (1 min)	49 FPS / 21% CPU	54 FPS / 19% CPU
(5 min)	52 FPS / 21% CPU	56 FPS / 19% CPU
WebGL	39 FPS / 5% CPU	42 FPS / 5%

	HTML Score:	Javascript Benchmark
QT5.2.1	295 of 555	2786.3ms +/- 0.4%
QT5.4.1	314 of 555	2365.5ms +/- 0.4%

Pace build binaries measurements

Dawn Board

FR10B-S0F/QT5.3.2/Nexus V12.4 release/Proxy mode/refsw_server/7002		
TYPE	No tile-backing	With tile-backing
Canvas Test (1 min)	31 FPS / 51% CPU	35 FPS / 51% CPU
(5 min)	36 FPS / 51% CPU	36 FPS / 52% CPU
WebGL	37 FPS / 23% CPU	

This measurement, with respect to the Canvas test, is in line with the measurements on buildroot.

On the WebGL we do see a difference. It is in line with a measurement done at Pace. However the 37FPS is much lower compared to the 50 FPS achieved by the buildroot version and requires further investigation.

CPU Measurement

The top application, supplied by buildroot is differently configured than the top application supplied by the Pace environment.

To be able to compare the CPU measurments from the Pace build to the buildroot build the following algorithm is used:

QtBrowser Buildroot CPU % = QtBrowser Pace CPU % / (Number of Processors on Dawn Hardware)

Measured CPU % on Pace need to be divided by 2 (cores) to be able to compare them to the buildroot top measurements.

References:

Canvas test: http://www.smashcat.org/av/canvas_test/

WebGL test: http://test.integraal.info/webgl/test1-v4.html

HTML score: http://html5test.com/

Javascript: http://www.webkit.org/perf/sunspider-1.0.2/sunspider-1.0.2/driver.html

Remark: *The build for Dawn/EOS does not contain any Audio and Video extensions for HTML as the media player is realized in the Seachange In Home software stack. If, in buildroot, the Video/Audio functionality for WebKit is turned on the HTML Score reaches 394.*