

Comparing Blink code coverage provided by web tests & WPT

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TL;DR

This research uses the [Chromium code coverage toolchain](#) to gather and compare the code coverage of Blink provided by web tests & WPT (using `run_web_tests.py` and `content_shell`). Three runs were done at the same revision: the full web tests, WPT only (`external/wpt`), and web tests without WPT. Virtual tests are included/excluded accordingly.

The full results can be viewed at:

<https://storage.googleapis.com/blink-wpt-coverage/201812/index.html>

Overall, WPT provides lower coverage than other web tests. And here's a manually curated list of Blink components whose WPT coverage is much (>30%) lower than the full web tests (bold components have an even larger difference than the rest):

Accessibility

BackgroundSync

Contacts

Editing

Forms

ImageCapture

Location

Media>Controls

Media>Session

Media>Recording

PresentationAPI

PushAPI

SVG

SecurityFeature>CredentialManagement

Sensor>DeviceOrientation

Speech

Storage>FileSystem

Storage>Quota

Vibration
WebGL
WebGPU
WebMIDI
WebXR>VR

Some of the differences are to be expected (e.g. WebGL/GPU is not included in WPT at the moment). We will use look closer at the list to identify key areas where we can improve testing infrastructure and automation. Meanwhile, suggestions or insights about the data are much appreciated!

Setup

https://chromium.googlesource.com/chromium/src/+master/docs/clang_code_coverage_wrapper.md

Full run

```
python tools/code_coverage/coverage.py blink_tests -wt -b out/coverage  
-o out/report -f third_party/blink
```

(ran into and fixed <https://crbug.com/915336>)

Without WPT

Remove all WPT entries from VirtualTestSuites

```
python tools/code_coverage/coverage.py blink_tests -wt='-i  
external/wpt' -b out/coverage -o out/report_without_wpt -f  
third_party/blink
```

With WPT only

Remove all directories other than external/, *Expectations, *Tests, flag-specific, platform, virtual from web_tests

(but create an empty web_tests/http/tests so that Apache is happy)

```
python tools/code_coverage/coverage.py blink_tests -wt -b out/coverage  
-o out/report_with_only_wpt -f third_party/blink
```

Follow up

TODO