

2022 - WebDriver Meeting

THIS DOCUMENT IS ARCHIVED. See the [2023 - WebDriver Meeting](#) document for 2023 notes.

Archive: [2021](#)

What: Weekly WebDriver Meeting When: Mondays at 2:30pm UTC Where: https://mozilla.zoom.us/j/99200111489 Channel: #webdriver Helpful links / references: • Project Wiki • BiDi API Status (in Firefox)	Queries & Links: • WebDriver BiDi Status Wiki • Milestone 5 Tracking Dashboard • M5 Queries: ◦ All Bugs ◦ Available Bugs ◦ Assigned Bugs ◦ Completed Bugs • Backlog Queries: ◦ M6 Candidates (P2) ◦ Future Candidates (P3) ◦ Full Product Backlog (P2 & P3)
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Meeting Leader / Notetaker Rotation

Add/remove your name from the table below if you want/don't want to be in the rotation of leaders.

	James Graham
	Henrik Skupin
	Jan Honza Odvarko
	Julian Descottes
	Alexandra Borovova

Next

Facilitator: TBD

Notetaker: TBD

Attendees:

Agenda/Notes

-

Project updates

- General
 - (read only) [Fixed bugs since last meeting](#)
- WebDriver BiDi
 - Implementation
 - Network Events
 -
 - Serialization and Deserialization of Javascript objects
 -
 - Others
 -
 - Specification
 -
- Marionette
 -
- Geckodriver
 -

Engineering Highlights

-

Dec 19, 2022

Facilitator: Henrik

Notetaker: Sasha

Attendees: Marco, Honza, Julian, Henrik, Sasha, James

Agenda/Notes

- [Marco] Status Update - [Milestone 5 Tracking Dashboard](#)
- [Marco] Transition -
 - When do we end M5?
 - Team decides on what happens to outstanding work.
 - Marco: Starting at the beginning of the year is my preference, but if the team prefers, we can finish the work. Right now the planned finishing date is around 15 Jan.
 - Honza: it would be nice to reach our goals and have M6 shorter.
 - James: We should be careful with the scope of M6.
 - Henrik: We also should count in holidays.
 - When do we start M6?
 - Tag with priority [P1] and whiteboard [webdriver:m6]
 - [M6 Candidates](#) (P2)
 - Completion range: Provided on Jan 16.
 - Marco will provide it
 - The team should try to add holidays for the first quarter, because it has an impact on the velocity.
 - [Henrik] Filing M6 implementation bugs now after triage from Friday last week
- [Marco] Today's Status Update -
 - Today is the final one for 2022.
 - Will announce transition to time-based tracking.
- [Marco] New vs. Added for Backlog -
 - 144 points to date.
 - 60% is original.
 - 40% is added.
 - For M6
 - 100 %: 40 conservative to 176 optimistic with an expected of 108
 - Marco's recommendation to pick between expected and optimistic estimation
 - Henrik: but we still should take only 60% to have space for added work
 - Marco: but you shouldn't be afraid to take more than 108 (expected).

Project updates

- General
 - (read only) [Fixed bugs since last meeting](#)

- WebDriver BiDi
 - Implementation
 - Network Events
 - [Julian] Fixed: [Bug 1790368 - Implement "network.beforeRequestSent" event](#)
 - [Julian] In progress: [Bug 1790370 - Implement "network.responseStarted" event](#) and [Bug 1790372 - Implement "network.responseCompleted" event](#)
 - Agreed to keep the bugs and have separate revisions, but in one stack.
 - Serialization and Deserialization of Javascript objects
 - [Henrik] In progress: [Move element reference cache from the parent to the content process](#)
 - Remaining work is finally done
 - [Sasha] Fixed: [Add support for deserialization of platform objects of type node](#)
 - The work was done before, only added the test case.
 - [Sasha] Fixed: [\[wdspec\] Fix wdspec tests for script module for exceptions for platform objects of type Node](#)
 - Others
 - [Henrik] [Add type field to "ScriptEvaluateResult" for "success" or "exception"](#)
 - [Sasha] In progress: [MessageHandler: support transactions when using sessionData](#)
 - [Julian] "Fixed": [Bug 1742607 - Add initial documentation for MessageHandler architecture](#)
 - Specification
 - [jgraham] Unbroke the WebDriver spec.
 - [jgraham] Landed [Node cache patch](#)
- Marionette
 - [mkato] Fixed: [GeckoDriver.setScreenOrientation should use Screen Orientation API instead of deprecated mozLockOrientation](#)
- Geckodriver
 - No updates

Engineering Highlights

- We added basic support for the first event of the network module: [network.beforeRequestSent](#). This is the first of a set of four events ([network.responseStarted](#), [network.responseCompleted](#) and [network.fetchError](#)) which will allow the monitoring of network information which can be useful in tests but also in page load performance automation (eg. to build HAR files).

- The serialization support for JavaScript objects has been extended. Now [platform objects of type Node](#) can be serialized and deserialized as well. This feature is needed for eg. returning DOM elements to the BiDi client.
- Initial support for the “[browsingContext.captureScreenshot](#)” command has been added, which for now allows capturing an image of a browsing context’s visible layout viewport.
- TODO: What’s missing in M5
 - Two network events (network.responseStarted, network.responseCompleted)
 - Transactions
 - To be compliant with the BiDi spec the [cache of DOM nodes needs to be handled per browsing context group](#).
 - To allow BiDi clients to access the same element references as previously retrieved via WebDriver classic the [references need to be shared between both protocols](#).

Dec 12, 2022

Facilitator: James

Notetaker: Julian

Attendees: Marco, Henrik, James, Honza, Sasha, Julian

Agenda/Notes

- [Marco] Status Update - [Milestone 5 Tracking Dashboard](#)
 - [Henrik] When to end Milestone 5? Wait until the end of first week 2023?
 - We can move remaining work to M6 as suggested
 - Who is around in the first week of January?
 - Henrik, Julian, Honza
 - Henrik: Maximum should be mid January.
 - Have 2 bugs to move as optional: responseStarted and responseCompleted (5 + 5 points). Will be integrated back to m5 if we have time, but otherwise they can move.
 - Marco: Sounds like the end of m4, arbitrary end time and then call it done. But in theory we commit on a certain scope, not on a date. We can't do that, and then suddenly switch to a fixed date. Need serious conversation about having fixed scopes or fixed dates. Need consistency. Date might be the easiest one. It can be harder to be scope based, even if it leads to a more complete product.
 - James: Not really an emergency stop. We also have issues with parallelization. They can move to P2, but our P2s are not the P1s of the next milestone. Both scope and date are artificial, you need to compromise and trade off at some point, either cut scope or extend the date.
 - Marco: The P2 is the potential M6 scope.
 - Henrik: Mainly management wants date driven milestones

- Honza: We discussed about having checkpoints initially, 3 months checkpoints. Then we turned those into milestones, and we decided a scope for them. Can't we stop at regular times and cut the scope?
- Marco: no issues at all, but that's how we should have started. We have said, the work is more important than the date, but in practice that's not how we work.
- Julian: I think it was more an issue with the contingency...
- James: Stakeholders are more interested in features than in date-based milestones
- Henrik: Each milestone has a theme, here it's Network events. It's new that management is now interested in imposing time constraints. If we cut ⅔ of the important events will break our promise for that milestone
- James: Every 6 months we have a conversation about the process
- Honza: They have concerns when a date is pushed too much. It should be clear why things get pushed
- Henrik: What is "too much"?
- Honza: December -> February is too much
- James: If we pick a date and say we are going to get X done, but we don't then we're going to get the same question. Why would this improve communication?
- Honza: We need to communicate well. Short milestones are useful.
- James: It seems important to fit our HR cycles, so if having 3months milestones help maybe we should follow that. Can't fix both date and scope of course.
- James: They care about: are you achieving your goals, they don't care about the way we define our milestones.
- Honza: They don't care about internal details, but they want to know what works and what's planned.
- Henrik: Will schedule a follow up session
- [Marco] Blocked Work
 - Is [Bug 1791964](#) unblocked now that the dependency ([Bug 1770731](#)) has been resolved?
 - [Henrik] Yes, it's unblocked now
- [Henrik] Updated review process for WebDriver BiDi tests
 - With an agreement from Google we no longer have to request upstream review requests but instead will follow the usual web-platform test review process, which basically happens in our downstream version in mozilla-central.
 - This will drastically reduce the turnaround time for reviews on any of our bugs touching Wdspec tests

Project updates

- General
 - (read only) [Fixed bugs since last meeting](#)
- WebDriver BiDi

- Implementation
 - Network Events
 - [Julian] In review [Bug 1790368 - Implement "network.beforeRequestSent" event](#)
 - Serialization and Deserialization of Javascript objects
 - [Henrik] Fixed: [Add support for serialization of platform objects of type Node](#)
 - [Sasha] In progress: [Bug 1791964 - Add support for deserialization of platform objects of type node](#)
 - Should be mostly webdriver tests
 - Others
 - [Sasha] Fixed: [Bug 1723102 - Implement full support for "session.subscribe" and "session.unsubscribe" commands](#)
 - [Sasha] In review: [Bug 1741834 - MessageHandler: support transactions when using sessionData](#)
 - [jgraham] Fixed: [Support "browsingContext.captureScreenshot" command](#)
 - [Julian] Fixed [Bug 1801461 - browsingContext.navigate\[interactive\] should not stop the progress listener if navigation has not started](#)
 - [Julian] In review [Bug 1742607 - Add initial documentation for MessageHandler architecture](#)
- Specification
 - [jgraham] - Updated [WebDriver PR](#) for actions to support different origin serializations.
- Marionette
 - [Henrik] [Move element reference cache from the parent to the content process](#)
 - Needs update of the patch to [fix clean-up scenarios](#)
 - [Julian] [Bug 1802473 - Marionette commands like "WebDriver:FindElements" can fail when Firefox window is occluded on Windows](#) (all prefs updated, so not strictly marionette only...) and updated related documentation at [Bug 1804219 - Clarify where to add preferences between RecommendedPreferences \(remote\), prefs.rs \(geckodriver\) and geckoinstance.py \(Marionette client\)](#)
- Geckodriver
 -

Engineering Highlights

- We've extended [session.subscribe and session.unsubscribe commands to support subscriptions and unsubscriptions to individual contexts](#). It should allow clients to reduce the amount of traffic coming from the events. This will be especially useful when clients will be able to subscribe to network events. Also, it is possible now to subscribe and unsubscribe to the whole module, instead of individual events.

Dec 05, 2022

Facilitator: TBD

Notetaker: TBD

Attendees:

Agenda/Notes

- [Marco - Away] Status Update - [Milestone 5 Tracking Dashboard](#)
 - No status update distribution this week.
 - Resumes on Dec 12.
- [Honza] Backlog Review - confirm if all remaining bugs are still necessary.
 - [Available Bugs](#)
 - [Assigned Bugs](#)

Project updates

- General
 - (read only) [Fixed bugs since last meeting](#)
- WebDriver BiDi
 - Implementation
 - Network Events
 - [Julian] In review [Bug 1790368 - Implement "network.beforeRequestSent" event](#)
 - Note [comment 27](#) about the items I propose to move to follow-ups: initiator, stacktraces, detailed request cookies
 - Serialization and Deserialization of Javascript objects
 - [Henrik] Review: [Add support for serialization of platform objects of type Node](#)
 - Others
 - [Julian] In autoland [Bug 1801461 - browsingContext.navigate\[interactive\] should not stop the progress listener if navigation has not started](#)
 - [Julian] In progress [Bug 1756595 - Implement "browsingContext.navigationStarted" event](#)
 - Having issues between content process or parent process monitoring of webprogress listener: parent process seems to miss some edge cases (and is more complex), content process creates duplicated events.
 - [Sasha] In review: [Bug 1723102 - Implement full support for "session.subscribe" and "session.unsubscribe" commands](#)
 - [Sasha] In progress: [Bug 1741834 - MessageHandler: support transactions when using sessionData](#)
 - [Henrik] Fixed: [Disable location change rate limit for remote protocols](#)

- (read only) [Fixed bugs since last meeting](#)
- WebDriver BiDi
 - Implementation
 - Network Events
 - [Julian] Fixed [Bug 1797785 - Add test for NetworkObserver](#)
 - Working on quick devtools follow ups [Bug 1800838 - Move request blocking outside of the NetworkEvent payload creation](#), [Bug 1800833 - Simplify NetworkObserver handling of response cookies and headers](#) and [Bug 1800836 - Stop passing the NetworkEvent owner to NetworkUtils.sys.mjs](#)
 - [Julian] In progress [Bug 1790368 - Implement "network.beforeRequestSent" event](#)
 - Serialization and Deserialization of Javascript objects
 - [Henrik] [Active] [Add support for serialization of platform objects of type Node](#)
 - Others
 - [Henrik] Fixed [columnNumber in exceptions and stackTraces should be 0-based](#)
 - [Henrik] [Write WebDriver connection details to a WebDriverBiDiServer.json file \(not WebDriverBiDiActivePort\)](#)
 - [Sasha] Review: [Implement full support for session.subscribe command](#) and [Implement full support for session.unsubscribe](#)
 - Specification
 -
- Marionette
 - [Henrik] Fixed [Simplify element staleness check](#)
 - [Henrik] [Review] [Move element reference cache from the parent to the content process](#)
- Geckodriver
 - No updates

Engineering Highlights

- We are working towards the goal of sharing Element references from classic WebDriver (Marionette) with the WebDriver BiDi implementation. This will allow end users to incrementally add WebDriver BiDi functionality to existing WebDriver tests.

To enable this, Marionette needs to cache elements per browsing context group (content process) instead of per browsing context. So [the Marionette implementation is going to be updated](#) to move the existing cache from the parent process into the content process, whilst preserving existing semantics for WebDriver users.

Nov 14, 2022

Facilitator: Julian

Notetaker: Henrik

Attendees: Henrik, Marco, Honza, James, Julian

Agenda/Notes

- [Marco] Status Update - [Milestone 5 Tracking Dashboard](#)
 - 60% through the backlog right now
- [Marco] Aging Work Review - Orange: ≥ 14 Days
 - 18 Days - Return to Backlog? - [Bug 1797785 - Add test for NetworkObserver](#)
 - 38 Days - [Bug 1792875 - Write WebDriver connection details to a WebDriverBiDi.json file \(not WebDriverBiDiActivePort\)](#)
 - [Henrik] Awaiting review from James since Nov 4th (*James reviewed today and requested changes*)
- [Marco] [Blocked Work Review](#)
 - Any unblocked?
 - All still necessary for M5?
 - All blocked on WebElement reference work by Henrik

Project updates

- General
 - (read only) [Fixed bugs since last meeting](#)
 - + [Bug 1788773 - Update the interface of the network observer to support non-devtools consumers](#)
- WebDriver BiDi
 - Implementation
 - Network Events
 - [Julian] Fixed [Bug 1788777 - Move devtools network observer to a shared location available to both remote/ and devtools/](#)
 - [Julian] Fixed [Bug 1788773 - Update the interface of the network observer to support non-devtools consumers](#)
 - Serialization and Deserialization of Javascript objects
 - [Henrik] Continuing work on WebElement references
 - Could James handle the necessary WebDriver classic spec work?
 - James can take care of
 - We do not have to wait for the spec changes to land as long as we do not change the behavior of WebDriver classic
 - Specification
 - Others
 -

- [jgraham] [Updated naming convention for CDDL](#)
 - [jgraham] [Ongoing updates for network request logging](#)
 - [henrik] who takes care about the navigable changes
 - No-one signed up for it right now but we should look
 - We have to do it in a way that it is backward compatible
 - We can always add new fields and keep legacy ones
 - Navigables are things like an iframe or a top-level item (like a tab) that can be navigated
- Marionette
 - [Henrik] [:echen landed a patch for DOM/Marionette to add support for tilt and twist properties for pointer actions](#)
- GeckoDriver
 - [Henrik] [Publishing geckodriver related crates should only include required files](#)

Engineering Highlights

- In order to leverage the existing codebase from DevTools, we [consolidated all the modules necessary to observe network activity under devtools/shared](#).
- We also [updated the interface of the DevTools network observer modules to be able to use them cleanly from WebDriver BiDi](#).

Nov 7, 2022

Facilitator: Honza

Notetaker: James

Attendees: Honza, James, Julian

Agenda/Notes

- [Marco] Work Week
 - Will the team be working at reduced capacity from Nov 28 to Dec 2? If so, this needs to be incorporated into the forecast.
 - Notes:
 - Yes, could probably set this to 0 and be surprised if we do better
- [Marco] Aging Work Review - Orange: >=14 Days
 - 31 Days - [Bug 1792875 - Write WebDriver connection details to a WebDriverBiDi.json file \(not WebDriverBiDiActivePort\)](#)
 - 19 Days - [Bug 1788777 - Move devtools network observer to a shared location available to both remote/ and devtools/](#)
 - Waiting on reviews. Expecting review to be fast once it happens.
- [Honza] Demo, notes (let's see if there are any blockers and how feasible this is)
 - The messages we want to send

- The basic BiDi infrastructure in Firefox is ready, with bidirectional support in place and we can now focus on implementing additional BiDi commands and events.
- We are working on BiDi adoption with other players in the field and also continuing to push the spec forward, which include implementing prioritized features. It's already possible to run tests against Chrome, Firefox and Edge. It's possible to run simple Puppeteer tests and Selenium allows using BiDi commands as well.
- We are focusing on supporting more API to cover more complex test scenarios: user input, screenshots, print to pdf, and other things prioritized by our partners. We want to make sure they have what they need and they are not blocked from adopting BiDi.
- Maybe also: It's simple to build custom BiDi clients, e.g. for monitoring BiDi packets, learning BiDi commands, monitoring remote logging, monitoring HTTP traffic, executing custom scripts in pages and inspecting results, etc. (we already have two examples)
- Next steps. What's missing? 2023 roadmap
- What we don't have to highlight at this moment
 - BiDi can be used to integrate with external developer tools and IDEs
- Demo
 - Can entirely happen on the command line with the browser window running next to the system console window.
 - It needs to be clear what happens on the command line as well as what the browser window is supposed to do.
 - Connecting to Firefox and running basic commands to operate it. For example: navigate to a specific page, enter text, click a button, wait till navigation to the result page is completed, check the state, close.
 - Run exactly the same test against Chrome
 - Run exactly the same test against Edge
 - Run the same test simultaneously on all three browsers using headless mode. Nicely collect and show the results: Firefox OK, Chrome OK, Edge OK
 - Run similar test, but based on Puppeteer API
 - Run Selenium test sending BiDi commands
- Notes
 - Puppeteer is out of our control
 - Some new API (like print) might be simple to implement
 - Cypress is off the table (not using CDP)
 - Selenium? Some people around the company thinks Selenium is dead
 - We don't have a command line client. Should we use Puppeteer? It would be better anyway.
 - Having Puppeteer in is very important
 - Showing source code of the test itself might be useful for some audience, so should be there too (we don't have to go over every line)

- Showing screenshot would be cool, but we don't have it now.
- [Honza] M5 High Level Overview - missing pieces (is the following list describing the correct picture?)
 - Landing the Network module and supporting BiDi network events (beforeRequestSent, responseStarted, responseCompleted, fetchError)
 - Session.subscribe & session.unsubscribe
 - Serialization/deserialization of platform objects
 - What else?
 - Anything important needed for the demo?
 - Notes:
 - Network events will mostly be in the parent process, so some extra infra is needed to subscribe to specific contexts.
 - NetworkObserver patches are in review.
 - Prototype didn't quite match the spec. Some things might be hard. We might need to land incomplete support.
 - Can imagine two more weeks in Jan.
 - Expect to get questions about what's missing.

Project updates

- General
 - (read only) [Fixed bugs since last meeting](#)
- WebDriver BiDi
 - Implementation
 - Network Events
 - [Sasha/readonly] Fixed: [Bug 1756610 - Implement "browsingContext.domContentLoaded" event](#)
 - [Julian] In review: [Bug 1788777 - Move devtools network observer to a shared location available to both remote/ and devtools/](#)
 - [Julian] In review: [Bug 1788773 - Update the interface of the network observer to support non-devtools consumers](#)
 - Removing the hardcoded `filters` argument, instead consumers can provide a filter function and implement the logic they prefer.
 - Still need to improve the interface around network events
 - Serialization and Deserialization of Javascript objects
 -
 - Others
 - [Julian] Fixed: [Bug 1795653 - Add trace logs when ProgressListener starts/stops](#)
 - Specification
 -
- Marionette

- [Henrik/readonly] Fixed: [Bug 1793311 - Fix Marionette documentation for Python tests and Selenium atoms export](#)
- [Henrik/readonly] Fixed: [Bug 1794099 - "WebDriver:GetElementText" started to fail with `TypeError: c is undefined`](#)
- [Henrik/readonly] Fixed: [Bug 1774182 - \[wdspec\] Improve and add missing "no such element" error tests for WebDriver classic commands where needed](#)
- Geckodriver
 - [Henrik/readonly] Fixed [Bug 1611004 - Support logging of truncated payload \(similar to Marionette\)](#)

Engineering Highlights

- We now [support the browsingContext.domContentLoaded](#) event, which is emitted when the document becomes interactive. This is a new addition to our existing browsingContext events. In previous milestones, we implemented the [browsingContext.contextCreated](#) and [browsingContext.load](#) events. browsingContext events are particularly useful in combination with network events, which is why we are also working on this during this milestone.
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Oct 31, 2022

Facilitator: (no meeting this week)

Notetaker: (no meeting this week)

Attendees:

Agenda/Notes

●

Project updates

- General
 - (read only) [Fixed bugs since last meeting](#)
- WebDriver BiDi
 - Implementation
 - Network Events
 - [Julian] In review [Bug 1788777 - Move devtools network observer to a shared location available to both remote/ and devtools/](#)
 - [Sasha] In review: [Bug 1756610 - Implement "browsingContext.domContentLoaded" event](#)
 - Serialization and Deserialization of Javascript objects
 - [Henrik] [Don't serialize HTMLDocument as a WebElement reference](#)
 - Others

- [Sasha] Fixed: [Bug 1791532 - Sync vendored puppeteer to v17.1.2](#)
 - [Sasha] Fixed: [Bug 1793589 - Consider empty sandbox name as a default realm](#)
 - Specification
 - No updates
- Marionette
 - [Henrik] ["WebDriver:NewWindow" should open a window with "about:blank", but not the new tab page](#)
- Geckodriver
 - No updates

Engineering Highlights

- We've updated [our vendored version of Puppeteer to v17.1.2](#), this lets us be sure that changes to Firefox or our CDP implementation will not cause regression with the most recent changes in Puppeteer.
- To align with the WebDriver BiDi spec changes, we updated the implementation of script.evaluate, script.callFunction, script.dismiss to [consider empty sandbox names as a default realm](#).

Oct 24, 2022

Facilitator: Henrik

Notetaker: Sasha

Attendees: marco, Honza, Sasha, Julian, James, Henrik

Agenda/Notes

- [Marco] Status Update - [Milestone 5 Tracking Dashboard](#).
 - Expected forecast completion: Dec 18
 - Our completion results are within the range
 - Backlog size is stable
- [Marco] Aging Work Review - Orange: ≥ 14 Days
 - [Bug 1792875 - Write WebDriver connection details to a WebDriverBiDi.json file \(not WebDriverBiDiActivePort\)](#)
- [Marco] Backlog Review.
 - Moving out 3 bugs to P2
- [Henrik] With mozdownload revived and active development happens we need at least 2 maintainers
 - I've created a new [mozdownload team](#) - who wants to join?
- [Honza] WebDriver BiDi Meeting in Berlin, Dec 1, 2022 ([email thread](#))
 - Status: suggestion
 - List of attendees?

- Pratyush Deshpande
 - He isn't part of the group.
 - Should he attend as an observer?
 - What is he actually working on?
 - [Honza] Send a follow up: no objections, should this be the final date?
 - [James] Why Pratyush wants to attend? Reach out.
-

Project updates

- General
 - (read only) [Fixed bugs since last meeting](#)
- WebDriver BiDi
 - Implementation
 - Network Events
 - [Julian] Landed [Bug 1788762 - Migrate devtools network observer to an ES module](#)
 - Serialization and Deserialization of Javascript objects
 - [Henrik] [Don't serialize HTMLDocument as a WebElement reference](#) (needs merge)
 - Once landed I will continue with WebElement serialization per Browsing Context group / process
 - Others
 - [Henrik] [Fixed internal polling mechanism for AsyncPoll in wdspec tests](#)
 - [Sasha] In progress [Sync vendored puppeteer to v18.x](#)
 - Changes in the logic and in the test runner at same time make it hard to identify a root cause of new flakiness cases, the proposal would be to update it more gradually (version before test runner update, test runner update, everything what happened after)
 - Update expectation file in the puppeteer repo after our sync is done
 - Specification
 - [jgraham] - In progress network events spec
- Marionette
 - [Henrik] [Stabilized Marionette driven retests](#)
- GeckoDriver
 - No changes

Engineering Highlights

- On October 13th we released [geckodriver 0.32.0](#) with new WebDriver actions support for [wheel input sources](#) and [touch as a pointer type](#). Also we improved the experience when geckodriver is used as a Snap package on Linux, now finally ship notarized binaries on MacOS, and extended support to aarch64 binaries for both Linux and Windows.

- In an effort to share code, we are going to [reuse DevTools' codebase for WebDriver BiDi Network support](#). As a first step we [migrated core DevTools network modules to ESM](#).

Oct 17, 2022

Facilitator: James

Notetaker: Julian

Attendees: Marco, Honza, Sasha, James, Julian

Agenda/Notes

- [Marco] Status Update - [Milestone 5 Tracking Dashboard](#).
 - Expected forecast completion: Dec 18
 - Continue increasing the backlog
- [Honza] Enhanced engineering highlights
 - Provide more context, so it's easier to understand the bigger picture
 - The idea is adding an "intro" section in each update (different every time) that should step by step paint the general story behind WebDriver BiDi work
 - This "intro" should ideally relate to things done in the past week (i.e. built on top of the highlights), but it should be clear "what has been done" and what is "describing the general story"
 - See the last update as an example of how the intro section might look like
 - Notes
 - Updates are sent by Marco by 5pm (11pm CEST)
 - Let's ask whether engineering highlights at the top would be better
 - Should we split the intro and highlights?
- [Honza] Planning, next steps
 - Milestone #5 should be completed by EOY (or early in the new year)
 - [Marco] *Caution:* continued backlog expansion threatens this - currently at the Dec 18 border before the holiday break.
 - [Marco] Not crossing over requires a stop to backlog expansion and maintaining our velocity.
 - [Marco] Schedule a backlog review at next week's team meeting to determine if any bugs are no longer necessary for M5.
 - There should be a demo after M5 (ideally cross browser)
 - The demo should help to answer questions like: Is BiDi working now? What's missing? What are the next steps? What about adoption by other players in the space? How do we plan to work with them? (e.g. pushing the spec, syncing roadmaps, supporting the right set of features, etc.)
 - We should start defining M6 and finalize it at DevTools workweek at the end of November (also using the opportunity of having a BiDi meeting at Google office)

in Berlin). It should be clear how the demo should look. We should have a rough plan about what comes after M6.

- Notes
 - What to demo?
 - Can we use Puppeteer? It would be great to show Puppeteer script running in Firefox (as well as Chrome)
 - Demoing Screenshots and print to PDF is very quick
 - Brian has list of things he wanted to do with automation/BiDi
 - Network request logging
 - Show real use cases
 - [Julian] Puppeteer meeting tomorrow
 - Discussion about ispuppeteerbidiready vs <https://puppeteer.github.io/ispuppeteerfirefoxready/>
 -

Project updates

- General
 - (read only) [Fixed bugs since last meeting](#)
- WebDriver BiDi
 - Implementation
 - Network Events
 - [Julian] Approved [Bug 1788762 - Migrate devtools network observer to an ES module](#)
 - Will land when freeze is done
 - Serialization and Deserialization of Javascript objects
 -
 - Others
 - [Sasha] In progress [Sync vendored puppeteer to v18.x](#)
 - Trying to start using puppeteer test expectation file instead of our own
 - [Julian] Fixed: [Bug 1765619 - Support the context parameter for browsingContext.create](#)
 - Specification
 - [Discussion](#) of sub-sessions
- Marionette
 -
- Geckodriver
 - [Bug 1750691 - Release geckodriver 0.32.0](#)
 - [Bug 1766960 - Update documentation for notarization on MacOS](#)

Engineering Highlights

WebDriver BiDi protocol is about test automation and the amount of supported commands a test can send to the browser window is growing nicely as we are moving from one milestone to another. An example of such a command is “browsingContext.create” which tells the browser to create a new tab where further commands might be executed (such as “browsingContext.navigate”). Of course, there might be multiple tabs (i.e. contexts) opened at the same time.

BiDi commands (sent to the browser) and events (received) are essential for effective test automation. So, we also quickly prototyped a simple BiDi Console client (web application) that can connect to an existing Firefox instance, register for “log.entryAdded” events and show all logs that are generated when a test page is running. It’s also possible to use the console and send “evaluate” commands executing custom JS in the browser. A simple remote Console that can be an invaluable tool especially when debugging a failing test. Let us know if you are interested in DEMO.

See highlights of what has been done last week:

- We prototyped [a WebConsole UI using WebDriver BiDi commands](#) to see the potential and limitations of BiDi API.
- The browsingContext.create command allows you to create new tabs, but it always adds tabs in the most recent window, at the end of the list. We now [support the "referenceContext" parameter](#), which allows you to specify where the new tab should be created.

Oct 10, 2022

Facilitator: Sasha

Notetaker: Honza

Attendees: Marco, Sasha, Honza, Julian, Henrik, James

Agenda/Notes

- [Marco] Status Update - [Milestone 5 Tracking Dashboard](#).
- [Honza] WebDriver BiDi, Meeting in Berlin
 - Dec 1, 2022 (meeting date and location is [proposed](#))
 - [Wiki](#) page for the meeting

Project updates

- General

- (read only) [Fixed bugs since last meeting](#)
- WebDriver BiDi
 - Implementation
 - Network Events
 - No updates
 - Serialization and Deserialization of Javascript objects
 - [Sasha] Fixed: [Support serialization of complex objects with container value fields](#)
 - Let us to enable 101 wdspec tests
 - Enabled > 100 wpt tests
 - [Sasha] Fixed: [Add webdriver tests for "script.callFunction" for handling complex objects with container value fields](#)
 - Others
 - [Henrik] [Random list of resolved IP addresses causes Remote Agent to start WebSocket on IPv6 instead of IPv4](#)
 - Important for Cypress
 - Cypress will follow up with a fix on their side soon
 - There'll be tests to avoid regressions on this again
 - [Henrik] ["TabManager.removeTab" needs to be async](#)
 - Moving from sync to async
 - Also fixed an intermittent tests
 - [Henrik] [Update bugzilla component for WebDriver BiDi and CDP related files under web-platform-tests to "Remote Protocol / WebDriver BiDi"](#)
 - [Henrik] [Reassign all upstream wpt.fyi failures with valid BMO references](#)
 - A lot of work around bug management
 - Let's pay more attention to test results anytime sync is happening
 - [Sasha] [Prototype a WebConsole UI using WebDriver BiDi commands](#)
 - Demo on DevTools Central meeting tomorrow
 - Next steps:
 - Create a meta bug, so we can start filing follow ups
 - https://bugzilla.mozilla.org/show_bug.cgi?id=1794433
 - Move the code to DevTools GH org
 - <https://github.com/firefox-devtools/bidi-webconsole-prototype>
 - [Julian] ProgressListener improvements: [fixed edge case when document was already loading](#), [added more logs](#), and (hopefully) [fixed intermittents wdspec tests](#)
 - More logs available (should help with intermittents investigation if any)

- [Julian] [All remote JSMs have been migrated to ESMs](#)
 - We are the first component with 100% ESMs! \o/
 - Check here: <https://spidermonkey.dev/areweesmifiedyet/>
 - [Bug 1793588](#) - 0.4% Base Content JS (Windows) regression on Fri September 30 2022
 - Let's wait and see, this might be unrelated
- Specification
 - Updates from TPAC:
 - No surprises == good news
 - An interesting topic discussed at the end. How to send events/values from the browser to the client. Do we need a global WebDriver global object to offer an API like `WebDriver.post?`
 - Discussion about getting reviews
- Marionette
 - [Henrik] [quit\(\) and restart\(\) have to shutdown the application sanely by default and not by specifying `in\\_app=True`](#)
 - More users are using this
 - Should be stable atm
- Geckodriver
 - [Henrik] [\[wdspec\] Modifier key for tests running on Android is incorrectly set to the host platform](#)
 - Couple of tests were broken
 - Preparing for the next [geckodriver 0.32.0 release](#)

Engineering Highlights

Milestone 5 just started and the focus is on monitoring network traffic this time. BiDi clients (e.g. automated tests) should be able to subscribe to “network” events to see what network requests were executed by a test page loaded in the browser. All these “network” events will be sent back to the BiDi test (yes, this is the bidirectional aspect) that can decide whether all went according to the plan or the test should fail..

See detailed description of what has been done last week:

- We extended [serialization](#) to support object types which require a strong reference.
- To support the [ESMification project](#), we [migrated our 146 JSMs to ECMAScript Modules \(ESM\)](#). With this, remote/ is the [first top-level folder in mozilla-central to reach 100%](#) of ESMification.
- Contributors from the Cypress project [reported a regression in Firefox 105](#) which didn't allow Cypress to connect to our CDP WebSocket endpoint anymore. After a joint investigation we diagnosed that on some systems ``localhost`` is resolved to an IPv6 address first, which caused our server to start on ``::1`` while Cypress is trying to connect

to the hardcoded `127.0.0.1` address. The fix will be shipped in Firefox 107 and [Cypress will implement a workaround](#) in its next upcoming release.

Sep 26, 2022

Facilitator: Julian

Notetaker: Henrik

Attendees: Marco, Henrik, Sasha, Julian

Agenda/Notes

- [Henrik] Project idea: node.js package for downloading Firefox/Fenix
 - Good reputation if provided by the browser vendor and not some random folks
 - Should be similar to [mozdownload](#) which is for Python
 - Would allow to download any kind of Firefox release / build (not only release, beta, devedition, and esr91) as some packages support
 - Helpful for CI (eg. GitHub actions) to get the wanted build
 - Selenium: Download Firefox and Fenix
 - Puppeteer would like to use for the browser fetcher
 - Older releases should download a specific Firefox Nightly
 - Node package that can be embedded in puppeteer / selenium / ...
 - Will continue to maintain the python mozdownload, but do we want to also have it as a nodejs package?
 - [Henrik] Maybe as an outreachy or gsoc project
 - Should use taskcluster instead of scraping. Would be better for performance. Would also be great to update mozdownload, but no time to do that.
- [Marco] [Milestone 4 Completion Review](#).
 - Started with 154 points, ended with 203. Good reduction of 38 points at some point
 - Velocity: conservative forecast remained steady, slight increase in the other. But we had a lot of "extremes". Which increases the range, and will impact M5 which will have a bigger range.
 - Forecast between Aug 14 and Nov 13. We ended up finishing on Sept 25th. Which is 2 weeks off the Sep 11th and corresponds to the 2 weeks off :)
 - Overall successful milestone.
 - ~3-4points per team member / per week, can be useful to plan for next milestones
- [Marco] Bugzilla queries for M5 updated.
- [Marco] Status Update - [Milestone 5 Tracking Dashboard](#).
 - Forecast Oct 30 -> Feb 12, exp Nov 20
 - Expectations are taken from M4 results
 - [Henrik] Should we set the capacity to 10% for next week because only Henrik is around

- [Marco] Aging Work Review - Orange: >=14 Days
 - [Bug 1770754 - Support serialization of complex objects with container value fields](#)
 - Was awaiting review from Google and will be fixed this week

Project updates

- General
 - (read only) [Fixed bugs since last meeting](#)
- WebDriver BiDi
 - Implementation
 - Network Events
 - [Julian] [Bug 1788762 - Migrate devtools network observer to an ES module](#)
 - Alex test his current patch against with my module migration, and reported that he was able to correctly debug the modules from the Browser Toolbox
 - Serialization and Deserialization of Javascript objects
 - [Sasha] In review: [Add webdriver tests for "script.callFunction" for handling complex objects with container value fields](#)
 - Serialization part is already covered by Maksim, added more cases for deserialization.
 - Others
 - [Henrik] [Enabled WebRender in Firefox for Puppeteer](#)
 - [Henrik] [Added headful support for Firefox in Puppeteer](#)
 - [Henrik] [Fixed window manipulation tests in Selenium test suite by using fluxbox as window manager](#) in Github Actions
 - [Sasha] Started BiDi Webconsole Prototype
 - Specification
 -
- Marionette
 - [Henrik] [Improve truncated logging for Marionette and protocols supported by Remote Agent](#)
 - [James] [Bug 1791736 - WebDriver:ElementSendKeys should only set the caret if the element is not focused](#)
- Geckodriver
 - [Henrik] [Backups of user.js in custom user profiles aren't deleted for tests running on Android](#)

M4 Completion Highlights

- Milestone 4 was all about APIs from the [WebDriver BiDi script module](#). The main focus was to deliver the [script.evaluate](#) and [script.callFunction](#) commands, which can be used to execute JavaScript code in a given browsing context and even [sandbox](#). With the added [script.Ownership](#) support various complex JavaScript objects returned by such an evaluation could then be used as arguments for another evaluation, and with the added

[script.disown](#) command these objects can also be cleaned-up if no longer needed.

Support for [realms](#) has also been added, which allows to directly target a given sandbox for script evaluation, and with [script.getRealms](#) a list of known realms can be returned.

- We [prototyped HAR files \(HTTP Archive format\) generation](#) using the [network events proposed for BiDi](#). First, this allowed us to identify missing data from the events definition. And we are now [testing this prototype instead of DevTools to record HAR during performance tests](#)[†], hoping it can provide more accurate timings.
- With the help of the GeckoView team, we extended the Remote Agent implementation to [allow Marionette and WebDriver BiDi to open and close tabs in GeckoView applications](#). As a result we were able to enable ~300 additional WebDriver tests on Android.
- With the added support for input sources of type [pointer touch](#) and [wheel](#) (scroll) our Marionette implementation is now complete and covers [all possible WebDriver input sources](#) for actions.

M5 Engineering Highlights

-

Sep 19, 2022

Facilitator: Honza

Notetaker: Henrik

Attendees: Marco, Honza, Sasha, Julian, Henrik

Agenda/Notes

- [Marco] Milestone Status - [Milestone 4 Tracking Dashboard](#).
 - Forecast completion between Sep 25 to Oct 9.
 - Notes
 - No reply from Maksim for patches in upstream repository
 - We will wait a bit but soon might have to land to get unblocked
 - Still aiming for Firefox 106 release to enable script module; might get into 106b2 and will require an uplift
- [Henrik] Milestone 5 prediction ready?
 - Waiting for M4 to be closed
 - Marco will post non-official prediction to the Slack channel

Project updates

- General
 - (read only) [Fixed bugs since last meeting](#)
- WebDriver BiDi
 - Implementation
 - Script Evaluation

- [Sasha] Fixed: [Bug 1766240 - Implement "script.getRealms" command](#)
- [Sasha] Still in review: [Bug 1779231 - Add Realm support to "target" argument for "script.evaluate", "script.callFunction", and "script.disown"](#)
 - Blocked on Maksim review
- [Sasha] In review: [Bug 1778976 - Enable "script.evaluate" and "script.callFunction" on release channels](#)
 - Approved, but blocked on [Bug 1779231](#)
- Serialization and Deserialization of Javascript objects
 - [Sasha] In review: [Bug 1770754 - Support serialization of complex objects with container value fields](#)
 - [Sasha] Started: [Bug 1770780 - Support deserialization of complex objects with container value field](#)
 - Most likely nothing really to do here, checking now why still some wpt script evaluation related tests are failing
 - [Julian] In review: [Bug 1788861 - script.callFunction clones remote references after deserialization](#)
 - Also blocked on Maksim's review :)
- Others
 - [Julian] [Bug 1788762 - Migrate devtools network observer to an ES module](#)
 - Alex has started working on the patch to load ESM in a different compartment
 - Rebased HAR patches on top of the current stack
- Specification
 - [Henrik] Inconsistent generation of local and remote CDDL files (missing definitions) [\[#275\]](#)
 - Might want to have a Rust component in Firefox so that we can validate JSON payload
 - [James] [TPAC in Vancouver](#) (details will follow probably next week)
- Marionette
 - No updates
- Geckodriver
 - [Henrik] Quite a lot of intermittent failures on Android since we enabled tests that open and close tabs and CI jobs were moved to GCP (see the [triage doc](#))

Engineering Highlights

- We added [basic support for the "script.getRealms" command](#) which returns the information about available WindowRealms, including sandboxes. This information contains realm ids which will be used to run script evaluation commands.

Sep 12, 2002

Facilitator: Henrik

Notetaker: Sasha

Attendees: Marco, Julian, Sasha, Honza, Henrik

Agenda/Notes

- [Marco] Milestone Status - [Milestone 4 Tracking Dashboard](#).
 - Completion range: 18 Sept - 25 Sept
 - Cruising down to the end
 - Henrik: We also want to include the work on the spec, which are not part of the features, which we are working on (like infrastructure changes).
 - Marco has a system to track it
 - Henrik: Our plan is to end M4 by the end of this week.
- [Honza] Hosting W3C Automation Testing group (BiDi) meeting
 - Berlin office
 - As part of the team work week
 - Andrew Overholt already agreed and we are waiting for feedback from the people team in regards of covid rules
- [Henrik] [M5 milestone - final bugs](#) (actually still needs ESM-ification bugs)

Project updates

- General
 - (read only) [Fixed bugs since last meeting](#)
- WebDriver BiDi
 - Implementation
 - Script Evaluation
 - [Julian] Fixed: [Bug 1770740 - Implement "script.disown" command](#)
 - [Sasha] Landed: [Bug 1766240 - Implement "script.getRealms" command](#)
 - [Sasha] In review: [Bug 1779231 - Add Realm support to "target" argument for "script.evaluate", "script.callFunction", and "script.disown"](#)
 - [Sasha] In review: [Bug 1778976 - Enable "script.evaluate" and "script.callFunction" on release channels](#)
 - Serialization and Deserialization of Javascript objects
 - [Julian] In review: [Bug 1788861 - script.callFunction clones remote references after deserialization](#)
 - Others
 - [Henrik] [Add support for opening and closing of tabs for GeckoView applications \(Marionette and WebDriver BiDi\)](#)
 - Enabled a ton of wdspec tests on Android

- [Julian] Starting on [Bug 1788762 - Migrate devtools network observer to an ES module](#)
 - [How to load in different compartment](#)
 - Preparation work for M5
 - It's mostly Devtools code but still good for everybody to have a look to see which parts are moved
 - Specification
 - [jgraham] Updated pull request for network [#204](#)
 - [Henrik] Some CDDL generation fixes for BiDi spec ([#272](#), [#275](#))
 - More fixes are required
- Marionette
 - [jgraham] [Support for scroll \(wheel\) actions](#)
- GeckoDriver
 - [Henrik] New support for aarch64 platforms
 - [Build geckodriver for aarch64 on Linux](#) (glandium)
 - [Build geckodriver for aarch64 on Windows](#) (glandium)
 - [Geckodriver cannot launch firefox from within snap confinement](#)

Engineering Highlights

- We extended the Remote Agent implementation to allow Marionette and WebDriver BiDi to [open and close tabs in GeckoView applications](#). As a result we were able to enable ~300 additional WebDriver tests on Android.
- With the newly added [support for input sources of type wheel](#) (scroll) our Marionette implementation is now complete and covers [all possible WebDriver input sources for actions](#) now.
- For WebDriver BiDi, we added [support for script.disown](#), which deletes one or several strong remote references created [thanks to ResultOwnership "root"](#). This will allow the underlying objects to be garbage collected if needed. Note that all references linked to a given document are automatically deleted on navigation, or when the document is destroyed.

Sep 05, 2022

Facilitator: James

Notetaker: Julian

Attendees: Marco, Honza, Julian, Sasha, James, Henrik

Agenda/Notes

- [Marco] Milestone Status - [Milestone 4 Tracking Dashboard](#).
 - Sep18 - Sep 25 - Oct 02. All completion forecasts contracted
 - Completed 26 points last week. 86% complete
 - 38 points net reduction from prev week.

- M5 will start after enabling script evaluate/callFunction/disown to release channel
- [Marco] Aging Work Review - Orange: ≥ 14 Days
 - [Bug 1756619 - Implement "browsingContext.load" event](#)
 - Already approved on our side, just waiting for Google approval. Should land soon.
 - Given that Maksim is out and Foolip on PTO maybe move forward and land it as an exception here?
 - James: model is eventual consistency. People can fix things afterward if needed
 - Henrik: we can land it and the sync will add the changes upstream
 - Sasha: PR will still be here if they want to comment.
 - Henrik: Can close PR as well.
- [Marco] M5 Prep
 - Start is forecast in 2 to 4 weeks from today.
 - [M5 Candidates](#) - 21 to date.
 - Continue to prep candidates with Priority: P2 and Whiteboard: [webdriver:backlog]
 - Switchover on start of M5 with final candidate review.
 - Henrik: not all bugs have been filed yet, will file more. Tomorrow we also have a meeting for element references so maybe we will include that. By the end of the week we should have filed a lot more bugs.
- [Honza]
 - Meetings, schedule
 - Google, Munich, Oct 25-26
 - Team meeting, Berlin Nov 28 - Dec 2
 - Should we move the team meeting to the future?
 - James: there is pushback on the dates for the Google meeting. Inconvenient for several potential attendees. Might be pushed back into November anyway. Doing both Munich and Berlin in November would be too much. Maybe host w3c meeting at the same time as the team meeting? Are folks ok to spend some days of the team week doing w3c meeting. Means we also need to find a venue to accommodate more people. Would be beneficial to have a w3c meeting in europe, because many folks not going to TPAC + keep talking to puppeteer meeting.
 - Honza: Merging the meetings is doable. We would still have enough time to talk about other things.
 - Henrik: w3c meeting would be in munich however.
 - James: Was assuming we would host in Berlin. Is there a room which would work?
 - Henrik: This is not possible in Berlin. We can't host in our offices. Asked in June this year. Not sure if this applies to community meetups or in general to all non-mozilla folks. Need to talk to Martina
 - Honza: Will double check. Would it only be Google folks?

- James: No: Apple, Google, Sourcelabs, browserstack... Was looking at a room size of ~18
- Henrik: two big rooms in BER, one used for allhands around the kitchen area, might fit more than 18 people. Or community space which is also a large room. Don't need the card. There were meetups with 20+ folks there.
- Honza: Will check if possible + size. If we cannot host it in Berlin, then move the team meeting to next year.
- James: We can also ask the Google folks if they could have a room around these dates, in case we can't host.
- Honza: Ok, let's check if none of those options work, we can move the team meeting.
- Henrik: Wait for Honza before replying to thread

Project updates

- General
 - (read only) [Fixed bugs since last meeting](#)
- WebDriver BiDi
 - Implementation
 - Script Evaluation
 - [Sasha] In review: [Implement "script.getRealms" command](#)
 - [Julian] Fixed [Bug 1783820 - Add resultOwnership support for "script.evaluate" and "script.callFunction"](#)
 - [Julian] On autoland: [Bug 1770740 - Implement "script.disown" command](#)
 - Serialization and Deserialization of Javascript objects
 - [Julian] Fixed [Bug 1770736 - Create object reference store for strong object references](#)
 - [Julian] Fixed: [Bug 1788124 - Support basic deserialization of complex objects referenced by a handle id](#)
 - Others
 - [Sasha] [Implement "browsingContext.load" event](#)
 - Approved by the team, waiting for approval from the Google side. Maksym is sick and Philip is on PTO. Could we maybe land and follow up?
 - Will be landed after the meeting
 - [Julian] Events refactoring
 - Specification
 - No updates
- Marionette
 - [Henrik] [Perma Windows shippable <random test> | application crashed \[None\] | After application terminated with exit code 1 | After application timed out after 370 seconds with no output](#)

- [Henrik] [Marionette client doesn't mark session as deleted when an "in_app" shutdown is requested](#)
- Geckodriver
 - No updates

Engineering Highlights

- script.evaluate and script.callFunction now [support the "resultOwnership" parameter](#) which can be used to create a strong reference on the return value of those commands. This reference is represented by a unique handle id. All references are deleted on navigation.
- We also added [basic support for deserializing remote references](#) created using "resultOwnership". This means a reference created by a callFunction or evaluate call can then be used as an argument or as the "this" parameter of script.callFunction.

Aug 29, 2022

Facilitator: Sasha

Notetaker: Honza

Attendees: Sasha, Honza, Henrik, Marco

Agenda/Notes

- [Marco] Milestone Status - [Milestone 4 Tracking Dashboard](#).
 - Expected completion date Oct 23 (contracted from Oct 30 last week)
 - Velocity of the team increased (second week of increase)
 - Backlog +10 points
- [Marco] Aging Work Review
 - [Bug 1533058 - "WebDriver:NewWindow" should open a window with "about:blank", but not the new tab page](#) - 77 Days: Status?
 - Moved to backlog P2
- [Marco] Backlog Review:
 - Which bugs should no longer be part of M4?
 - Notes:
 - M5 Triage meeting planned for this week (Tuesday)
 - The speed is not a problem, the constant expansion of the backlog is an issue (154 -> 236)
 - Once serialization/deserialization and Object cache is done we might have better progress with the rest of the backlog

Project updates

- General
 - (read only) [Fixed bugs since last meeting](#)
- WebDriver BiDi

- Implementation
 - Script Evaluation
 - No updates
 - Serialization and Deserialization of Javascript objects
 - No updates
 - Others
 - [Sasha] Fixed: [Sync vendored puppeteer to v16.1.1](#)
 - [Sasha] In review: [Implement "browsingContext.load" event](#)
 - [Henrik] [Removed the non-fission puppeteer job](#)
 - [Julian-readonly] Finished: [Prototype for HAR generator support](#)
 - Filed [HAR prototype performance bug](#) , already got help from Peter Hedenskog to check the performance impact. Currently finalizing a patch they can fully drive with preferences to test the prototype. Performance is better than devtools but still [not-negligible](#)
- Specification
 - No updates
- Marionette
 - No updates
- GeckoDriver
 - No updates

Engineering Highlights

- We [prototyped HAR files \(HTTP Archive format\) generation](#) using the [network events proposed for BiDi](#). First, this allowed us to identify missing data from the events definition. And we are now [testing this prototype instead of DevTools to record HAR during performance tests](#)[†], hoping it can provide more accurate timings.
- We've updated [our vendored version of Puppeteer to v16.1.1](#), this lets us be sure that changes to Firefox or our CDP implementation will not cause regression with the most recent changes in Puppeteer.
- We are [clarifying and simplifying our framework around event handling](#), to avoid sending unexpected events to the consumer. This also gives us confidence to use events internally, because we know they will not be sent unnecessarily.

Aug 22, 2022

Facilitator: Honza

Notetaker: Henrik

Attendees: Henrik, Sasha, Honza, Marco, Julian

Agenda/Notes

- [Marco] Milestone Status - [Milestone 4 Tracking Dashboard](#).
- [Marco] Aging Work Review
 - [Bug 1533058 - "WebDriver:NewWindow" should open a window with "about:blank", but not the new tab page](#) - 70 Days: In Development.
 - [Bug 1770496 - Prototype for HAR generator support](#) - 21 Days: In Development.
 - [Bug 1756680 - Sync vendored puppeteer to v16.1.x](#) - 18 Days: In Development.
- [Henrik] Updates for the [Remote Protocol module](#) (Wiki owners page)
 - Doesn't contain anything around WebDriver BiDi
 - Now that Marionette is under /remote as well shall we maybe combine both modules, or keep the [Marionette module](#) for the Python client under Testing?
 - I would propose to add Sasha as an official peer for Remote Protocol and Marionette - to become an official reviewer
 - Notes:
 - Update the peer list and description (mention BiDi)
 - Add Sasha as peer reviewer
- [Henrik] WebDriver W3C meeting (Test Automation summit) in Berlin
 - <https://www.w3.org/wiki/WebDriver/2022-08-BiDi-Automation-Summit-Berlin>
 - Notes:
 - A lot about BiDi & Selenium interaction
 - 6 people from Google attending
 - PatrickB considering attending too (Microsoft)
 - Simon Stewart (Apple)
- [Henrik]
 - Add WebDriver BiDi support for Firefox in Puppeteer
 - Topic from last Puppeteer meeting (no link)
 - We were asked if we could actually implement the support for Firefox or at least the first basics to get Puppeteer using the new protocol.
 - We should discuss our goal and required resources to get this done
 - Notes:
 - See Puppeteer meeting notes for more details
 - It would be great to help, but we are small team
 - Likely need some syncing with Alex Rudenko before we start helping
 - It isn't clear what is the scope (just BiDi changes or also some Puppeteer changes too)

Project updates

- General
 - (read only) [Fixed bugs since last meeting](#)
- WebDriver BiDi
 - Implementation
 - Script Evaluation

- [Sasha] Fixed: [Support script evaluation inside sandboxes for "script.evaluate" and "script.callFunction" command](#)
- [Henrik] [Remove current session usage from log.entryAdded tests](#)
- Serialization and Deserialization of Javascript objects
 - [Henrik] [Refactor script evaluation code to make use of a Realm class](#)
- Others
 - [Henrik] [Resolve localhost to an IP before starting httpd.js](#)
 - [Sasha] In review: [Sync vendored puppeteer to v16.1.1](#)
 - [Julian] [HAR prototype](#) ready to be reviewed, meeting scheduled
 - [Julian] Events refactor
 - In review: [merging protocol and internal events](#)
 - Follow ups: [1763137](#) [1762334](#) [1786255](#)
 - Specification
 - No updates
- Marionette
 - No updates
- Geckodriver
 - No updates

Engineering Highlights

- The "script.evaluate" and "script.callFunction" commands now can [evaluate the scripts inside sandboxes](#).
- The Remote Agent now [reports the internal server to always run on host `127.0.0.1`](#) and not `localhost` if IPv4 is available, and will fallback to `[::1]` on IPv6-only systems. This eliminates the connection issues for clients (eg. running on NodeJS > 16) which would resolve `localhost` to an IPV6 address by default.

Aug 15, 2022 (canceled)

Facilitator: TBD

Notetaker: TBD

Attendees:

Agenda/Notes

- [Marco] Milestone Status - [Milestone 4 Tracking Dashboard](#).
 - **Summary:**
 - Negative shifts occurred across all completion and velocity range scenarios.
 - The cause of this situation is the continued backlog expansion coupled with a reduction in point completion.
 - **Completion Range:**

- The current completion range is between October 09 and December 18 with an expected target of October 30.
 - The Optimistic, Expected and Conservative completion forecasts expanded by 2-weeks, 3-weeks and 4-weeks, respectfully.
- **Velocity Range:**
 - The current velocity range is between 6.4 points/week and 15.6 points/week with an expected target of 11.0 points/week.
 - All velocity forecasts decreased.
- **Point Completion:**
 - 5 points completed in the previous week.
 - Point completion below the lower boundary of the velocity range.
 - 47% of the milestone backlog completed to date - a decrease from the previous week due to the backlog expansion.
- **Backlog:**
 - The current backlog size is 220 points.
 - 22 points added to the milestone backlog in the previous week.
- [Marco] Aging Work Review
 - [Bug 1533058](#) (new window with about:blank) - 63 days assigned.
 - [Bug 1770480](#) (sandbox'ed execution) - 20 days assigned.
 - [Bug 1770496](#) (HAR prototype) - 14 days assigned.

Project updates

- General
 - (read only) [Fixed bugs since last meeting](#)
- WebDriver BiDi
 - Implementation
 - Script Evaluation
 - [Sasha] In review: [Support script evaluation inside sandboxes for "script.evaluate" command](#)
 - Waiting for review of the tests from Maksim
 - Serialization and Deserialization of Javascript objects
 -
 - Others
 - [Julian] Fixed: [Add documentation for SandboxOptions](#)
 - [Sasha] In progress: [Sync vendored puppeteer to v16.1.x](#)
 - Current version in mc is v13.0.1, so there is quite a gap and a lot of changes happened, including moving test files into a new folder. So I went with a gradual approach, so far managed to update to v13.7.0
 - Specification
 -
- Marionette

- [Henrik]
 - Fixed: [WebDriver:GetElementProperty cannot access node properties as set by web content](#)
 - Fixed: [JS debugger does no longer halt on breakpoints in content processes when running Marionette tests with --jsdebugger](#)
- Geckodriver
 - [Notarization blocks geckodriver from starting when downloaded via a web browser](#) (fixed for binary - will still not work in offline mode)

Engineering Highlights

-

Aug 8, 2022

Facilitator: Henrik

Notetaker: Sasha

Attendees: Marco, Henrik, Julian, Sasha

Agenda/Notes

- [Julian] For info we had [feedback from arai about the performance difference](#) between DevTools and BiDi with regards to evaluateInGlobalWithBindings. TLDR, is that it makes sense, and given our usage of evaluateInGlobalWithBindings we should not have the same performance issues as devtools.
- [Marco] Milestone Status - [Milestone 4 Tracking Dashboard](#).
 - Calculation takes into account only 2 people working last week
- [Marco] Blocked Work
 - Review current bugs - orange and red age status.
 - Add blocked identifier: **[webdriver:m4:blocked]**
 - Change the status from Assigned
 - Can keep Assignee
- 15 August public holiday in France

Project updates

- General
 - (read only) [Fixed bugs since last meeting](#)
- WebDriver BiDi
 - Implementation
 - Script Evaluation
 - [Julian] Fixed [Bug 1770489 - Add tests for Javascript errors handling in "script.callFunction" command](#)
 - [Julian] Fixed [Bug 1770487 - Add tests for "awaitPromise" argument for "script.callFunction"](#)

- [Sasha] In progress: [Bug 1770480 - Support script evaluation inside sandboxes for "script.evaluate" command](#)
 - Aligned on the approach with Julian and James, should be ready for the review tonight.
 - Serialization and Deserialization of Javascript objects
 - [Sasha] Fixed: [Bug 1779179 - Rename "+Infinity" to "Infinity" in serialization and deserialization](#)
 - [Sasha] Fixed: [Bug 1779226 - Support serialization of plain JS objects with simple value fields](#)
 - Can push to try and download the test logs, then run mach wpt-update
 - Others
 - [Julian] Still working on the HAR prototype. I have a basic implementation of all 3 base events, I also have a basic har builder, but it seems like I am missing some requests and haven't been able to generate a HAR yet.
 - Implementation is more complex than script evaluation. We should be careful with planning M5. It's also hard to parallelize the work for Network. Maybe we could do some preparation work in M4 already.
 - Would be good to share as much as possible with DevTools
- Specification
 -
- Marionette
 -
- Geckodriver
 -

Engineering Highlights

- Serialization for [Infinity is now aligned with specification](#) and [supports plain JS objects with simple value fields](#).
- We aligned on the approach of how to [handle script evaluation in sandboxes](#). Implementation is still ongoing.
- In preparation for milestone 5 which will revolve around network events, we are currently [prototyping support for HAR file generation](#). We plan to use this prototype to check for potential gaps in the platform APIs or performance issues.

Aug 1, 2022

Facilitator: Julian
Notetaker: Honza

Attendees: Marco, Julian, James, Sasha, Honza

Agenda/Notes

- [Marco] Milestone Status - [Milestone 4 Tracking Dashboard](#).
 - Backlog size haven't changed
 - Completion date changed, Expected October 16, 2022 (due to downtime and allhands, nothing to do with performance)
 - We can yet update since not everyone is attending AH (Henrik, Julian, Sasha are not going), will be done next week
 - Eng highlights can resume next week
- [Marco] Blocked Work
 - Review current status.
 - Remove the milestone backlog.
 - Add blocked identifier: **[webdriver:m4:blocked]**
 - Blocked bugs should not be assigned. We want to track work in progress and assigned but block bugs are negatively impacting the data
 - Julian: makes sense
 - Agreement, let's do this (we can quickly identify assigned bugs not being worked on and unassign). We can start asking questions when a bug becomes orange (14 days assigned)
- [Julian] Status for the [Element Reference store](#)?
 - Cache should be per process + check browsingcontext group
 - Still need to investigate BF cache? Any other pending investigation
 - Should we prototype this week before Henrik comes back from PTO?
 - Notes:
 - James: we can review and try build on top (before Henrik is back)
 - Should be any kind of node (not elements only) for BiDi
 - There was also a bit of spec discussion about UUID
 - Let's try implementing first and then see impact on the spec

Project updates

- General
 - (read only) [Fixed bugs since last meeting](#)
- WebDriver BiDi
 - Implementation
 - Script Evaluation
 - [Julian] Tests for `callFunction` [awaitPromise](#) and [exceptionDetails](#) should be fixed with the next sync
 - Merged on GitHub [Bug 1770489 - Add tests for Javascript errors handling in "script.callFunction" command](#)

- Merged on GitHub [Bug 1770487 - Add tests for "awaitPromise" argument for "script.callFunction"](#)
- [Julian] Fixed [Bug 1780752 - script callFunction and evaluate fail if the script throws an object which doesn't implement toString\(\)](#)
- [Sasha] Fixed: [Bug 1770798 - Add webdriver tests for "script.callFunction" for handling complex objects with simple value fields](#)
 - Was synced already last week
- [Sasha] In progress: [Bug 1770480 - Support script evaluation inside sandboxes for "script.evaluate" command](#)
- Serialization and Deserialization of Javascript objects
 -
- Others
 - [Julian] [Started HAR prototype](#)
 - Notes:
 - Started, nothing to share yet
- Specification
 - [jgraham] Minor updates for network logging in response to Julian's feedback
- Marionette
 -
- Geckodriver
 -

Engineering Highlights

- Notes:
 - Should be resumed next week

Jul 18, 2022

Attendees: readonly

Agenda/Notes

- No meeting today, most attendees on PTO

Project updates

- General
 - (read only) [Fixed bugs since last meeting](#)
- WebDriver BiDi
 - Implementation
 - Script Evaluation

- - Serialization and Deserialization of Javascript objects
 -
 - Others
 -
 - Specification
 -
- Marionette
 -
- Geckodriver
 -

Engineering Highlights

- The ["arguments"](#) and ["this"](#) parameters have been added to the script.callFunction command. They can be used to pass any value currently supported by our serialization. Once we start supporting object handles, this will allow users to reuse remote values retrieved from previous commands.
- A [new boolean preference called "remote.experimental.enabled"](#) is now used to disable commands or events which are not fully implemented. Otherwise users might start implementing against in-progress implementation and face issues. At the moment it guards the two recently added commands: script.evaluate and script.callFunction. This preference is true on Nightly and test platforms, false everywhere else. This was also uplifted to Beta 103.0b9.

Jul 11, 2022

Facilitator: Sasha

Notetaker: Julian

Attendees: Marco, Henrik, James, Sasha, Julian, Honza

Agenda/Notes

- [Marco] Milestone Status - [Milestone 4 Tracking Dashboard](#).
 - Added 'Age' column for assigned bugs.
 - Everyone seems happy with the current version, with calendar dates
 - Still experiencing erratic point completion
 - Optimistic and expected contracted by 1 week, conservative by 2 weeks
 - Backlog is at 188, added 8 points last week
 - Net flow is being incorporated. First week where we completed more than we started
 -

Project updates

- General
 - (read only) [Fixed bugs since last meeting](#)
- WebDriver BiDi
 - Implementation
 - Script Evaluation
 - [Julian]
 - Fixed [Bug 1770477 - Support handling of Javascript errors for "script.evaluate" command](#)
 - Fixed [Bug 1750541 - Implement basic support for "script.callFunction" command](#)
 - In review [Bug 1770492 - Support primitive values as "arguments" for "script.callFunction" command](#)
 - Performance comment
https://bugzilla.mozilla.org/show_bug.cgi?id=793345#c23
 - In review [Bug 1777460 - Support "this" parameter for "script.callFunction" command](#)
 - [Sasha]
 - Merged on Github [Bug 1770792 - Add webdriver tests for "script.evaluate" for serialization of complex objects with simple value field](#)
 - Merged on Github [Bug 1775276 - Add webdriver tests for "script.callFunction" for serialization of primitive/simple values](#)
 - Serialization and Deserialization of Javascript objects
 - Serialization of WebElements
 - [Henrik] Review: (Marionette) [Create wrapper around ContentDOMReference to generate uuids already in the content process](#)
 - Might be pushed during PTO if needed
 - [Henrik] Review: [\[wdspec\] Improve and add missing "no such element" error tests for WebDriver classic commands where needed](#)
 - Both patches are still blocked from landing until the [WebDriver classic PR](#) has been merged
 - Others
 - [Sasha] In review [Bug 1777951 - Enable partially implemented WebDriver BiDi features on Nightly channel only](#)
 - [Henrik] [Live "browsingContext.contextCreated" events have to be sent out with an URL of "about:blank" \(102 uplift wanted\)](#)
 - Specification
 -
 - Marionette

- [jgraham] - Updated touch and wheel actions [patches](#)
- Geckodriver
 -

Engineering Highlights

- The script.evaluate command now [handles errors and promise rejections](#), returned to the consumer as "exceptionDetails".
- A [basic version of script.callFunction](#) was added. Compared to script.evaluate, it allows to invoke a function declaration. While not supported in the basic version, it will later be used with custom ["arguments"](#) and ["this"](#) parameters, allowing to reuse remote values from previous commands.
- The work in Marionette to [handle DOM elements already in the child actor](#) (content process) has made progress and is close to being reviewed. But due to [required changes in the WebDriver classic specification](#) the landing is blocked for now.

PTOs:

- Henrik: July 18 - August 5
- Sasha: July 18 - July 29
- Julian: July 14-15
- James: August 8 - August 31

July 4, 2022

Facilitator: Julian

Notetaker: Honza

Attendees: Marco, Julian, Honza, Sasha, Henrik, James

Agenda/Notes

- [Marco] Milestone Status - [Milestone 4 Tracking Dashboard](#).
 - (changes from this morning not included, including 10 completed points)
 - Completion + velocity scenarios negative shift
 - Large number of work in progress bugs/items
 - 42 points assigned, 85 available, 53 completed
 - Expected completion date: Sep 25 - expanded by 1 week (current velocity 10,7 points per week)
 - Backlog expansion 5 points (current 180)
 - Project 29% complete (last week 30%, since the backlog expanded)
 - There is an interesting relationship between “the more work in progress” => “slower completion rate”
 - There is a trend (ove month) of: more bugs are being “in-progress” over time (atm)

- Discussion points for the team (to avoid slow down and erraticness):
 - We have a fluid completion date, no deadline, no contingency list. We can expand the backlog, but we should be always careful.
 - Work in progress. Why does that happen? Is this result of too many dependencies, internal and/or external?
 - Too much multitasking?
 - Are reviews taking too long?
 - Starting more work then we are actually completing? Why? This should be nicely balanced (completing about the same as starting)
 - Could we limit the amount of work in progress so we can focus better?
- [Marco] Development Discussion.
 - Could we highlight bugs that are stale? (too long in the progress)
 - Marco: yes
 - There are external dependencies (external WPT github repo)
 - Waiting for patch syncing/reviews
 - Could we make reviews more efficient to avoid blocking?
 - Henrik on sick leave
 - Julian: not worried about this milestone
 - Should we take some corrective actions? It's a month-long data set, but we should pay attention.
 - Should we un-assign ourselves when a bug is blocked?
 - Marco: likely yes, and assign if it's unblocked? But...
 - If this happens often we should talk to external stakeholders/teams and get unblocked...
 - There might be some limits, e.g. maximum amount of bugs being assigned per person atm
 - We should continue having this discussion,...
- [Henrik] Test Automation Summit in Berlin (Aug 25th and 26th)
 - (will share not ready yet document internally)
 - Planned by [Titus Fortner](#) (SauceLabs)
 - It's an open event for everyone so not only stakeholders
 - Aug 25th is reserved for project maintainers
 - Aug 26th have lightning talks and working sessions
 - Total capacity of the event will be "small" but might be worth it to get in contact with folks and maybe someone to hack with us on BiDi even if it's for Selenium
 - Maybe something for Sasha and Henrik?
- [Julian] Tips for working with <https://github.com/web-platform-tests/wpt> ?
 - (from James) `git format-patch` or `git am` in a wpt checkout and then `git apply --dir testing/web-platform/tests` in a gecko checkout, or whatever the hg equivalent of the latter is
 - Any other tips? How to easily run a subset of tests against a local FF binary for instance?
 - Notes

- A lot of manual copy-paste
- <https://web-platform-tests.org/running-tests/from-local-system.html#via-the-command-line>

Project updates

- General
 - (read only) [Fixed bugs since last meeting](#)
- WebDriver BiDi
 - Implementation
 - Script Evaluation
 - [Julian] Fixed [Bug 1770461 - Add support for "awaitPromise" argument for "script.evaluate"](#)
 - Filed: [Bug 1777936 - script evaluate awaitPromise should be mandatory](#) to land once sync is done
 - Did not land the test refactor at <https://phabricator.services.mozilla.com/D150467> , unsure if I should push it here or move it to a PR
 - [Julian] In review [Bug 1770477 - Support handling of Javascript errors for "script.evaluate" command](#)
 - Reviews for the implementation are done
 - Still unsure what to do with the tests
 - Maybe fold [Bug 1776428 - Use enableAsyncStack instead of addDebuggee in BiDi script module](#) since the platform dependency landed ?
 - [Julian] Added patches for callFunction in WIP state
 - [Bug 1750541 - Implement basic support for "script.callFunction" command](#)
 - [Bug 1770492 - Support primitive values as "arguments" for "script.callFunction" command](#)
 - [Bug 1777460 - Support "this" parameter for "script.callFunction" command](#)
 - Support for [return value](#), [await promise](#) and [handling errors](#) all come by default, those bugs should be around adding tests
 - [Sasha] Merged on Github [Add webdriver tests for "script.evaluate" for serialization of primitive/simple values](#)
 - Will be synced through [\[wpt-sync\] Sync PR 34642 - Add tests for script.evaluate for serialization of primitive/simple values.](#)
 - Serialization and Deserialization of Javascript objects
 -
 - Others
 - [Sasha] Fixed [Add support for "source" to "log.entryAdded" event](#)
 - Includes the realm set to the inner window id

- Specification
 -
- Marionette
 - [jgraham] - (Re)landed workaround for IPC in synthetic wheel events
- GeckoDriver
 - [Henrik] [Release webdriver 0.46.0 crate for updated \(warp, hyper, tokio\) dependencies](#)

Engineering Highlights

- The log.entryAdded event now [returns “source” property](#), which helps to identify from which tab or frame the event is coming from.
- The script.evaluate command now [supports the awaitPromise argument](#), to wait for asynchronous expressions to resolve before returning.

Jun 27, 2022

Facilitator: Honza

Notetaker: Henrik

Attendees:

Agenda/Notes

- [Marco] Milestone Status - [Milestone 4 Tracking Dashboard](#).
- [Henrik] Pref'ing off incomplete WebDriver BiDi APIs
 - Work on new APIs is most likely not completed when a new Firefox train starts
 - To prevent half-baked features to be available by default on beta and release we should consider to pref them off
 - We could do that with a single preference for everything that we work on and should not be available yet for end users
 - Jobs in CI would have this preference enabled all the time so we won't have to care on which branches tests might fail
 - IMO we shouldn't have individual flags for each API
 - Notes:
 - [julian] A pref would be ok. The check should happen very early and not in some module
 - [jgraham] We could use a blocklist to indicate not ready yet APIs
 - [henrik] For events we have to make sure to apply it as well
 - [jgraham] In some cases like all events for a module we might not know the list of events in advance
 - [julian] For events the module can provide a list of all the events. That would allow us to only return the enabled events, although it would require per-module changes.

- Henrik: https://bugzilla.mozilla.org/show_bug.cgi?id=1777951
- [Henrik] [MobileCamp](#) in Dresden
 - One of the biggest bar camps in Germany
 - Hold a 1h talk / demo about WebDriver BiDi including history
 - Sadly orga missed to add it to the official agenda and as such it wasn't that well attended
 - Nevertheless good discussions and questions
 - Including feedback about slow devtools in Firefox compared to Chrome
 - Notes
 - Feedback
 - Performance testing (page load performance)
 - Network Throttling
 - Slow DevTools (comparing to Chrome)
 - Might be nice to have "team" slides for BiDi

Project updates

- General
 - (read only) [Fixed bugs since last meeting](#)
- WebDriver BiDi
 - Implementation
 - Script Evaluation
 - [Julian] Fixed: [Bug 1770476 - Support for returning primitive values from "script.evaluate" command](#)
 - In progress [Bug 1770461 - Add support for "awaitPromise" argument for "script.evaluate" and Bug 1770477 - Support handling of Javascript errors for "script.evaluate" command](#)
 - "awaitPromise" is now mandatory instead of default true ([spec PR](#))
 - :arai is [adding an API to enable async stack traces per realm](#) ([follow-up on our side](#))
 - Using [innerWindowId as realm id](#) ([spec PR from james](#))
 - Serialization and Deserialization of Javascript objects
 - No updates
 - Others
 - [Sasha] Fixed: [Move the _subscribeEvent logic fully to the root/session.jsm module](#)
 - [Sasha] In progress: [Add support for "source" to "log.entryAdded" event](#)
 - Needed first to fix: [Allow windowglobal-in-root modules to intercept events from their corresponding windowglobal module](#)
 - [Henrik] [Checking ServerSocket patch to work with IPv6/Dualstack](#)
 - Specification
 - [graham] - Landed input source state per top-level browsing context

- [jgraham] - Landed CI support for failing on build warnings
- Marionette
 - [Henrik] Fixed: [DOM nodes from browser windows are no longer returned as chrome element references](#)
 - Henrik: Fixed: [Remove support for CHROME_ELEMENT_KEY element references](#)
 - [Henrik] in progress: [Create wrapper around ContentDOMReference to generate uuids already in the content process](#)
- GeckoDriver
 - [Henrik] [About to release an out-of-band webdriver release](#)
 - Updates quite a lot of important dependencies (hyper, tokio, warp)
 - [Backed out due to issues with crate auditing](#) - our release flow doesn't work with some recent changes ([bug 1776096](#))
 - James is going to fix it on [bug 1776649](#)

Engineering Highlights

- While refactoring the code for handling element references it has been noticed that Marionette didn't correctly handle elements in non browser windows (when staying in chrome scope) anymore. A [fix for Firefox 102 ESR](#) will be landed soon, and for newer releases the [support for chrome elements has been removed](#).
- The script.evaluate command now [returns the result of the evaluation](#). We are actively collaborating with other vendors in this area, with [Google providing web-platform tests](#) for this command.

Jun 20, 2022

Facilitator: Henrik

Notetaker: James

Attendees: Marco, Julian, Honza, Sasha, Henrik, James

Agenda/Notes

- [Marco] Milestone Status - [Milestone 4 Tracking Dashboard](#).
 - Increased point completion and limited backlog expansion.
 - Expected: Sept 11th Range: Aug 21st-Oct 30th
 - 11 points/week average.
 - 23% of backlog complete.
 - Need to update the Fixed bug link in this agenda.
- [Henrik] RelMan bot flags bugs with priority P1 and not being assigned as to be triaged.
 - This behavior will change soon because it does not align well enough with other projects as well which do not have the same cycle as Firefox releases
 - We don't know how soon though.
 - Should we change our handling of bugs for the current and next milestones?

- Move away from using priorities, or still set them as P2 when unassigned?
- Dedicated whiteboard entries instead for milestone selection?
- If they keep the existing behavior we can just remove all the P1s from the current milestone and keep P2 and P3. P1 information is duplicated in the whiteboard.
- Not ideal, but it would work.
- Priority has been assumed to be used in the same way between teams, but we seem to be realizing that's not really true.
- Maybe using just whiteboard flags is a little bit better, but no strong options.

Project updates

- General
 - (read only) [Fixed bugs since last meeting](#)
- WebDriver BiDi
 - Implementation
 - Script Evaluation
 - [Julian] [Bug 1742979 - Implement basic support for "script.evaluate" command](#) landed
 - Supports evaluating expressions, no return value, no async, no errors
 - Started looking at tests, but also depends on upstream PRs.
 - [Julian] [Bug 1770476 - Support for returning primitive values from "script.evaluate" command](#)
 - In review
 - [Julian] [Bug 1770477 - Support handling of Javascript errors for "script.evaluate" command](#) , re: async stack traces, addDebuggee & makeGlobalObjectReference
 - addDebuggee makes the global's realm a debuggee, which *should* [disable a bunch of optimisations](#). But addDebuggee also enables async stacktraces (which are normally disabled everywhere for performance reason). The alternative is to flip `javascript.options.asyncstack_capture_debuggee_only` and enable stacktraces everywhere. Asked :arai for more info, will try to measure the performance impact.
 - Need to compare with `Cu.evalInSandbox`, to check we don't get worse performance than marionette.
 - Make async stacktraces a capability if there is a real performance issue

- What does marionette do for async stack traces? Not sure. CDP doesn't support it (but it's using addDebuggee, so this seems possible to support).
- Serialization and Deserialization of Javascript objects
 - [Henrik] Fixed: [\[wdspec\] Improve tests for "stale element reference" error states](#)
 - Lots of new tests for all available WebDriver commands checking the right way for stale elements
 - [Henrik] [Create wrapper around ContentDOMReference to generate uuids already in the content process](#)
 - Refactored the code to have an element reference store per JSWindowActor
 - Works fine for content scope but remaining issues with chrome scope ([bug 1775064](#), [bug 1775036](#))
 - [Sasha] Support [serialization](#) (fixed) and [deserialization](#) (landed) of complex objects with simple value fields
 - All objects that don't require a strong reference
 - Date object required some spec changes
- Others
 - [Julian] Working on MessageHandler documentation
 - Hard to not document everything, but will try to get something landed for this milestone.
- Specification
 - [jgraham] - Spec changes to make [element store per Window](#)
 - [jgraham] - Landed [User Prompt Handling](#) support
 - [Next editorial meeting this week on Wednesday](#)
- Marionette
 - [Henrik] [\[wdspec\] Improve handling for moving and resizing of windows on Linux](#)
 - Way more stable handling of window manipulation commands due to a fix in Core and Marionette by KarlT with better event handling ([bug 1745595](#))
 - 🎉
- GeckoDriver
 - No updates

Engineering Highlights

- While refactoring the code for handling element references it has been noticed that nearly every WebDriver classic command didn't have proper checks for a "stale element reference". As such [comprehensive tests have been added for all the remaining commands](#), which itself detected broken behavior for the script execution command within Marionette.
- We landed [basic support for the script.evaluate command](#), which allows us to execute JavaScript in a given Browsing Context. We are reusing SpiderMonkey APIs already tested against DevTools and CDP. In the coming weeks we will add more features to script.evaluate: [returning values](#), [asynchronous support](#), [error handling](#)...

- We extended [serialization](#) and [deserialization](#) to support object types which don't require a strong reference.

Jun 13, 2022

Facilitator: James

Notetaker: Sasha

Attendees: Honza, Sasha, Henrik, Julian, James

Agenda/Notes

- [Honza] Milestone Status - [Milestone 4 Tracking Dashboard](#).
- [Honza] Non-Team Member Assigned Work
 - New bugs added to, or existing bugs part of, the milestone backlog and assigned to non-team members do not require point allocation.
 - Tracked for completion only - cannot reconcile the point allocation from non-team members without impacting the velocity range.
 - If a bug is reassigned to a team member then a point value can be allocated to it.
- [Henrik/Julian] Flagging release notes worthy bug fixes for DevTools release tasks work
 - As part of every Firefox release we have to add [WebDriver conformance changes to the MDN release notes](#)
 - Collecting these entries is based on the [fixed bugs for a release like for Firefox 101](#)
 - With lots of bugs included it's hard to figure out what to actually pick for the release notes
 - Shall we consider adding a whiteboard entry whenever a bug gets closed and is worth mentioning?
 - Notes
 - Use [webdriver:relnote] as whiteboard entry
 - Try to stay ahead when bugs gets fixed otherwise we can check again right before a release

Project updates

- General
 - (read only) [Fixed bugs since last meeting](#)
- WebDriver BiDi
 - Implementation
 - Script Evaluation
 - [Julian] Patch for basic implementation [up for review](#)
 - Pulled the [PR from Maksim](#) to check against wdspec tests

- Piling on patches to [handle return values](#), [awaitPromise](#) and [exception handling](#), we are passing almost all the tests (except for the asserts on column / line numbers, see [PR comment](#))
- Serialization and Deserialization of Javascript objects
 - [Henrik] Support shared WebElement references
 - [Improving tests \(Wd and Mn\) to correctly check for stale reference vs no such element errors](#)
 - Includes a [fix to the WebDriver class specification](#)
 - [Move element store from parent to child process and create sharable module](#)
 - [Sasha] Support complex objects with simple value field
 - [Serialization is ready to be landed](#)
 - Includes support for `maxDepth`
 - [Deserialization is ready for review](#)
- Others
 - - Specification
 - [jgraham] - Landed basic [screenshot support](#)
- Marionette
 - [jgraham] - Input support
 - (Re)-landed actions refactor
 - [Touch](#) and [wheel](#) patches up for review
 - New problem with cross-process iframes that will also affect existing events
- Geckodriver
 - No updates

Engineering Highlights

No updates this week given that bugs as reported last week are still in progress

Jun 6, 2022

Facilitator: TBD

Notetaker: TBD

Attendees:

Agenda/Notes

- [Marco] Milestone Status - [Milestone 4 Tracking Dashboard](#).
 - **Development:**
 - [35 Points - Assigned](#)

- [107 Points - Available](#)
- [13 Points - Completed](#)
- **Completion Range:**
 - The current completion range is between August 14 and October 30 with an expected target of September 11.
 - The Optimistic and Expected completion forecasts remained stable while the Conservative completion forecast contracted by 2-weeks.
- **Velocity Range:**
 - The current velocity range is between 14.9 points/week and 6.8 points/week with an expected target of 10.9 points/week.
 - The Optimistic velocity forecast remained stable while the Expected and Conservative velocity forecasts expanded slightly.
- **Point Completion:**
 - 13 points completed in the previous week.
 - 8% of the milestone backlog completed to date.
 - Current point completion fell within the upper boundary of the velocity range.
- **Backlog:**
 - The current backlog size is 155 points.
 - 1 point added to the milestone backlog in the previous week.

Project updates

- General
 - (read only) [Fixed bugs since last meeting](#)
- WebDriver BiDi
 - Implementation
 - Basic Navigation support
 - [Sasha] Added more wdspec tests for different navigation cases
 - [Handle navigation for frames for browsingContext.navigate](#)
 - [Handle navigation to data: urls for browsingContext.navigate](#) (relanded)
 - Support for Selenium integration ([doc](#))
 - Script evaluate
 - [Julian] Started work on [basic implementation](#), will push to review this week.
 - Tried to investigate performance impact of `addDebuggee` vs `makeGlobalReference`. The latter is supposed to be more transparent but could not see any actual impact. Nonetheless, since `addDebuggee` is only relevant for scenarios involving breakpoints, we might just use the simpler version.

- However there is a huge performance difference between ``executeInGlobal`` and ``executeInGlobalWithBindings`` (can be up to [80 times slower](#)). ``executeInGlobalWithBindings`` could have been useful to pass arguments to our script, and therefore useful for ``callFunctionOn``
-
- Others
 - [Julian] [MessageHandler commands now support a `retryOnAbort` parameter](#)
 - Will allow a JSWindowActor query to be retried up to 10 times in case we fail on AbortErrors
 - Specification
-
- Marionette
 -
- Geckodriver
 -

Engineering Highlights

- We are starting the [implementation of the `script.evaluate`](#) command which allows executing a provided script in a test page. The basic implementation will only execute the script and will not handle return values, awaiting promises, sandboxing... Regarding the implementation, based on experience from other protocols as well as from DevTools we plan to reuse [SpiderMonkey's Debugger API](#).
- In parallel we are working on improvements to our serialization to start supporting complex objects. Until now we only supported returning primitive types. The work is going to be incremental, and the [first step is to serialize objects which contain themselves simple values](#). Deeply nested objects as well as object references will be handled in follow up bugs.
- Still for serialization we are doing preparatory work to handle DOM Element return values correctly. This requires [updating existing protocols such as Marionette to handle DOM Elements in a way that will be compatible with WebDriver BiDi](#). This compatibility is needed because DOM Element references have to be shared between WebDriver Classic and BiDi so that a single WebDriver session can transparently use both, and therefore make it easier for tools to transition to BiDi.
- Some follow up work from milestone 3, we added more tests and fixes for `browsingContext.navigate` edge cases, such as navigation to [error pages](#), [data URLs](#), [images](#), [anchors](#)... We also improved the framework to [avoid JS Window Actor errors due to other navigations](#).

May 30, 2022

Facilitator: Sasha
Notetaker: Julian

Attendees: Honza, Sasha, Henrik, Julian, James, Marco

Agenda/Notes

- [Marco] Review Project Status - [Milestone 4 Tracking Dashboard](#).
 - Milestone 4 official start date - Monday May 30, 2022.
 - **Development State:**
 - [13 Points - Assigned](#).
 - [141 Points - Available](#)
 - [0 Points - Completed](#)
 - **Completion Range:**
 - The current completion range is now between August 14 and November 13 with an expected target of September 11.
 - **Velocity Range:**
 - The current velocity range is now between 14.9 points/week and 6.6 points/week with an expected target of 10.8 points/week.
 - **Backlog:**
 - The current size of the backlog is 154 points.
- [Marco] Review process changes:
 - Priority Settings & Whiteboard Tagging:
 - P1 - [webdriver:m4]
 - P2 - [webdriver:m5]
 - P3 - [webdriver:backlog]
 - Backlog & Completion Date:
 - Milestone Backlog is permitted to expand as much as the team requires.
 - Forecast completion dates are also permitted to fluctuate as required.
 - No contingency pool to accommodate the entry of unexpected work.
 - No mandatory removal of MVP bugs to counteract schedule expansion.
 - No baselines for forecast completion & velocity ranges.
 - No 'At Risk' and 'Challenged' status.
 - Milestone Planning:
 - Notification provided at the 8-week mark before the forecast completion of the current Milestone.
- [Marco] Updated Queries & Links.
 - See top of the document, status wiki has also been updated.
 - Honza: 3 months sounds good for m4, could also be 3 months for m5
 - Honza: Also have the prototype for network in m4, maybe feedback from perf team as well by the time we go to m5.
 -
- [Henrik] Feedback / Proposals for the WebDriver meeting
 - Do we spend our time well enough

- Maybe focus more on discussions instead of reading status updates?
Project updates maybe mostly read-only?
- Are all the topics relevant or do we need structural changes or other topics added?
- Honza: there is now initiative triage, bugs we want to add to the current milestone, we need triage for that too. Could happen as part of this meeting or as part of the triage meeting. Might be easier as part of the triage meeting.
- Separate meeting for Milestone triage is good (if there is not much to triage, we can do it as part of the triage meeting)
- Honza: yes, it's interesting to get updates about the various work items. Know what is in progress, what is blocked etc...
- James: sometimes you can't know what will trigger a good discussion or not
- Sasha: should make sure to have space for questions if something is not clear.

Project updates

- General
 - (read only) [Fixed bugs since last meeting](#)
- WebDriver BiDi
 - Implementation
 - Basic Navigation support
 - [Henrik] [Handle navigation to error pages for browsingContext.navigate](#)
 - [Sasha] [browsingContext.navigate shouldn't navigate with the same hash in URL](#)
 - Support for Selenium integration ([doc](#))
 - [Wdspec on Android](#)
 - [Henrik] Active: [Support opening new tabs in GeckoView](#)
 - Added [request for a new service worker delegate](#) that could handle tab creation for testing related code across applications without having to register a delegate in each and every application
 - New tab feature blocked right now, but hopefully they will have time to unblock during next milestone.
 - Script Evaluate support
 - [Julian] [Investigations around performance profile for Debugger APIs](#)
 - Let me know if you have other scenarios I could test, or feel free to pull the stack and experiment.
 - Others
 - [Julian] Puppeteer issue about failing tests on Firefox was [closed](#)
 - We fixed two bugs in m-c to [support hash navigation](#), and [emit a loader id when relevant](#)
 - Enabled tests for Firefox in puppeteer CI ([PR](#))

- New loader behavior [re-landed on Puppeteer side](#) and seems fine with Firefox for now.
 - Specification
 - [jgraham] Maksim's [ownership changes PR](#) landed.
- Marionette
 - [jgraham] Updated actions review
- Geckodriver
 -

Engineering Highlights

- Start distribution of highlights in next week's status update.

May 23

Facilitator: Julian

Notetaker: Honza

Attendees: Marco, Henrik, Honza, Sasha, James, Julian

Agenda/Notes

- [Marco] Updated Queries
 - M4 Queries: (P1)
 - [All Bugs](#)
 - [Available Bugs](#)
 - [Assigned Bugs](#)
 - [Completed Bugs](#)
 - WebDriver Backlog Queries:
 - [M5 Candidates](#) (P2)
 - [Future Candidates](#) (P3)
 - [Full Product Backlog](#) (P2 & P3)
 - Utility Queries:
 - [Missing Points & Priority](#)
 - [Remaining M3 Conversion To M4](#)
- [Marco] Dashboard Upgrades
 - Is there any data you need to know that isn't provided?
 - E.G. Breakdown by type of work?
 - Regular vs. Defects
 - E.G. Time to complete work?
 - E.G. Work in progress?
 - E.G. Net flow of work?
 - Notes
 - Should be something we really need (not just nice to have).

- Q: could we visualize the amount of blockers? This would be based on a discipline of using blocker fields properly. Marco will look into this.
 - Everyone can think about this and provide feedback to Marco.
 - Example [charts](#)
- [Honza] Blog posts
 - We could create our own blog, maybe shared with DevTools. That would avoid roadblocks for new posts.
 - We might be able to have a blog post out, but it's likely to be under the usual intense scrutiny.
 - Q: :ekr only wants to review outline for [hacks](#) posts
 - This might not be a great time to blog on hacks right now, because we are shipping to release, but you cannot do much with BiDi yet.
 - Should be discussed with the DevTools team
 - Should be kept alive, regular posts, etc.

Project updates

- General
 - (read only) [Fixed bugs since last meeting](#)
- WebDriver BiDi
 - Implementation
 - Basic Navigation support
 - [Sasha] Added more wdspec tests for different navigation cases
 - [Handle navigation to images for browsingContext.navigate](#)
 - [Handle hash changes for browsingContext.navigate](#)
 - Support for Selenium integration ([doc](#))
 - [Wdspec on Android](#)
 - [Henrik] Active: [Support opening new tabs in GeckoView](#)
 - [Henrik] [Add support for "source" to "log.entryAdded" event](#) (blocked on spec review)
 - Waiting for reviews (might be moved into the next milestone)
 - Others
 - [Henrik] Fixed: ["mach puppeteer-test" fails with ".git can't be found \(see https://git.io/Jc3F9\)"](#)
 - [Julian] anchor navigation for CDP ([bug](#) and [dependency](#))
 - Back compat issues (we should support old and new version of Puppeteer)
 - [Puppeteer issue](#)
 - Specification
 -
- Marionette
 - No updates
- Geckodriver

- [james] Patch for –profile-root folder landed

Engineering Highlights

- No engineering highlights this week, we are planning for M4

May 16, 2022

Facilitator: Honza

Notetaker: Henrik

Attendees: Henrik, Marco, Honza, Sasha, James, Julian

Agenda/Notes

- [Marco] Review Project Status - [M3 Project Dashboard](#)
 - 99% complete.
 - 1 point remaining to complete: [Bug 1533058](#).
 - M3 is expected to be completed by the end of this week.
 - Velocity tracking will continue for [P3 - P5 completed bugs](#) and be incorporated at the start of M4.
 - Notes
 - [henrik] Moving bug 1533058 to P3 and closing M3 milestone
 - Adding a M3 summary to engineering highlights
- [Henrik] [Agenda for Puppeteer meeting](#) (feedback welcome)
 - What about meeting with Playwright?
 - There are no news from our side (no help from our side)
 - Let's take a look at the last meeting notes and see what are the things we could help with. This can also generate some topics/agenda to talk about)
 - We still miss good communication channel (apart from quarterly meeting)
- [Henrik] Milestone 4 planning ([rough split of implementation bugs](#))
 - Not discussing right now - happy to receive feedback
 - Julian and Alex to respond to Debugger questions if time allow
 - It's in DevTools but untouched for quite some time
 - Julian will have a look
 - evalInDebugger: Does it support sandboxes? Does it evaluate in content and can it by-pass CSP?
 -

Project updates

- General
 - (read only) [Fixed bugs since last meeting](#)

- WebDriver BiDi
 - Implementation
 - Basic Navigation support
 - [Sasha] Fixed: [browsingContext.navigate should not use the unload timer](#)
 - [Sasha] Fixed: [Handle navigation to about:blank for browsingContext.navigate](#)
 - Support for Selenium integration ([doc](#))
 - [Wdspec on Android](#)
 - [Henrik] Active: [Support opening new tabs in GeckoView](#)
 - [Henrik] [Add support for "source" to "log.entryAdded" event](#)
 - Lets discuss how to intercept protocol events as emitted in the content process, and updating properties in the root module
 - Others
 -
 - Specification
 - [jgraham] - Ongoing discussion about object ids [[Issue](#), [PR](#)]
 - Strong reference to the root
 -
- Marionette
 - [Henrik] [Allow marionette to connect to a windowless instance of Firefox](#)
 - Landed early last week and yet no known regressions
 - [Henrik] [Marionette forced shutdown of Firefox for content crashes is now reported with exit code of 245 \(not 0 anymore\)](#)
 - [jgraham] Updated Actions refactor review
- Geckodriver
 - [Henrik] [Update 0.31.0 release availability](#)
 - As of late Friday this should have been fixed
 - So far GitHub still shows version 0.31.0
 - [jgraham] [Added --profile-root command line flag](#) (Snap)
 - If geckodriver is packaged into the Firefox Snap package it isn't able to find Firefox (patch by community members available) - more thoughts to do what we want to do here, we don't want to see hard-coded stuff in geckodriver

Engineering Highlights

- M3 review
 - Milestone 3 was all about browsing context APIs. The main focus was to deliver the [browsingContext.navigate](#) command, which as you can expect allows you to navigate a tab to a given URL. To go along with navigation, we implemented commands to [get](#), [create](#) and [close](#) browsing contexts. We also added the [browsingContext.contextCreated](#) event to be notified about new tabs or windows.

- With the help of the GeckoView team, [WebDriver webplatform tests \(wdspec\) were enabled on Android](#) and we can already test WebDriver BiDi on this platform.
- New [command-line arguments were added](#) so that users can specify allowed host and origin headers, which will help to use WebDriver BiDi with various clients or environments.
- Finally, after conducting a security review [WebDriver BiDi was enabled on all channels in Firefox 101](#). Thanks to this, third party tools such as Selenium will now be able to use WebDriver BiDi to control / interact with Firefox.
- With the request from the Application Update team we added support for [window-less mode in Marionette](#). It allows consumers to verify silent restarts of Firefox on MacOS, which means that no browser window will be opened after the restart..

May 09

Facilitator: Henrik

Notetaker: James

Attendees: Henrik, Marco, Sasha, Honza, James

Agenda/Notes

- [Marco] [Milestone Process Changes](#)
 - No further edits required.
- [Marco] M3 Wind Down
 - M3 will be closed once the remaining [two MVP bugs](#) (14 points) have been completed.
 - Leave priority at P3 for any new bug assignments related to M3.
 - M4 can begin once the backlog is organized.
- [Marco] Review Project Status - [M3 Project Dashboard](#)
 - The team's velocity has contracted due to only [two MVP bugs](#) remaining to be completed and [no remaining MVP to be assigned](#).
 - **Completion Forecast:**
 - Forecast completion is now between May 15 and May 29 with an expected target of May 22.
 - The Conservative completion scenario contracted by 1-week while the Optimistic and Expected completion scenarios remained unchanged from last week..
 - **Point Completion:**
 - 6 points completed for a total completion of 182 points.
 - 93% of the M3 MVP Backlog has been completed.
 - **Velocity:**
 - Velocity is now between 5.9 points/week and 14.4 points/week with an expected target of 10.1 points/week.

- The velocity range contracted across all scenarios from the last week.
- **Scope Changes:**
 - 3 points of new MVP work added.
 - Average of 10 points/week of new work added since the MVP Backlog was set.
- **Backlog Size:**
 - Backlog has expanded by 32 points for a total of 196.
- Can we start M4 without a gap?
 - That's the goal. Work won't be lost if you do it before M4 officially starts. Want to close M3 now because it's using the old process. Future milestones won't have a gap. Current velocity won't be used for future milestones.
 - Leave work tagged as M3 for now, but we will use those items as the initial velocity estimate.
 - [Completed Reserve bugs related to M3](#) which will be included in the M4 velocity range.

Project updates

- General
 - (read only) [Fixed bugs since last meeting](#)
- WebDriver BiDi
 - Implementation
 - Basic Navigation support
 - [Sasha] Fixed: [Sometimes "WebDriver:Navigate" with a PageLoadStrategy of "none" returns before navigation has started](#)
 - Support for Selenium integration ([doc](#))
 - [Henrik] [Wdspec on Android](#)
 - Next: Working towards [support for opening a new tab for GeckoView](#)
 - [Enable BiDi on release channels](#)
 - [Julian] Fixed: [Bug 1753997 - Enable WebDriver BiDi on release channels](#) (and uplifted for Firefox 101 beta 3)
 - Others
 - [julian] Fixed: [Wait for TabSelect properly when switching tabs](#)
 - Want to use the TabSwitched event, but there's currently a problem when we are also switching windows.
 - Specification
 - [jgraham] Initial draft of [network logging API](#)
 - Meeting on Wednesday. Henrik will add some agenda items.
- Marionette
 - [Henrik] [Allow marionette to connect to a windowless instance of Firefox](#)
 - Fixed: [Sharing a WebDriver session with Marionette doesn't wait for browserStartupFinished](#)
 - Final patch on autoland now

- Geckodriver
 - [Henrik] [GitHub release page broken - latest release not shown](#)
 - No major end user problems yet, because the releases have been backwards compatible.
 - Contacted GitHub. Seems to be an indexing problem on their end. "Latest" release is now 0.29.1 (should be 0.31)
 - Talking to Mozilla GH admins
 - Can workaround this by republishing release, but we have to notice there's a problem.
 - Moving off of GitHub would be quite some work
 - Creation of our own releases page (including RestAPIs for latest etc)
 - Similar to ChromeDriver
 - Might add some more trustworthy when it comes from one of our sites
 - Would make releasing easier due to a lot of manual steps right now
 - Links for binaries could then directly point to TaskCluster artifacts
 - Artifacts on Taskcluster are only available for about 1 year so we might not be able to directly link - maybe [archive.mozilla.org](#)?
 - What about users (distributors) who still have to build on their own?
 - At least we release all the crates on crates.io now so that a `cargo build` would be enough
 - Cargo build should allow to build for other platforms as well
 - Not clear that having a geckodriver-specific repo is a requirement
 - Various CI pipelines might have the GitHub links hardcoded
 - We cannot break these immediately but need a transition period by shipping on both places
 - Print deprecation warning if downloaded from github
 - Could avoid breakage if there is a compat issue with geckodriver
 - Mozilla is shipping binaries [here](#)
 - If we can reuse that maybe it's not too bad to ship to a Mozilla-specific location.

Engineering Highlights

- The [WebDriver BiDi protocol is now enabled on release channels](#) and will be shipped with the Firefox 101 release on May 31st. It includes the following features: basic page navigation, subscription to events, and receiving log events. This will allow the Selenium project to replace their CDP implementation for Firefox with WebDriver BiDi.

May 02

Facilitator: Honza

Notetaker: Honza

Attendees: Honza, Julian, Henrik, Sasha

Agenda/Notes

- [Marco - *read only*] Review Project Status - [M3 Project Dashboard](#)
 - The status for M3 has returned to 'On Track' as the schedule expansion and velocity decline have stopped.
 - Completion Forecast:
 - The completion range has contracted across all scenarios.
 - Forecast completion is now between May 15 and June 05 with an expected target of May 22.
 - Point Completion:
 - 27 points completed in the previous week for a total completion of 176 points.
 - 88% of the M3 MVP Backlog has been completed.
 - Velocity:
 - The velocity range has expanded across all scenarios.
 - Velocity is now between 6.0 points/week and 14.7 points/week with an expected target of 10.4 points/week.
 - Scope Changes:
 - Net change of 1 point removed in the previous week.
 - Average of 11 points/week of new work added since the MVP Backlog was set.
 - Backlog Size:
 - Backlog has expanded by 37 points for a total of 201.
 - Notes
 - We should not start new M4 without Julian (on PTO May 9 - 13, see below)
- [Marco - *read only*] Updated [Milestone Process Changes](#)
- [Honza] Labeling bugs (feature work, regression, external work)?
 - webdriver:feature + webdriver:m4
 - webdriver:regression + webdriver:m4
 - webdriver:external + webdriver:m4 (some other team requested a work)
 - And we can still query by date to see additional work added later in the milestone.
 - Notes:
 - Decision -> Additional labels not needed, except of "external" => [webdriver:external] (better so, we can still query the entire backlog using just [webdriver:m4])
 - We can use the existing regression keyword and the date

- [Julian] PTO May 9th -> 13th (next week)
- [Honza] Planning a follow up email to Puppeteer
 - Michael Hablich (PM) - asking about a survey that was planned for Q1, any interesting results to share?
 - Meeting with the Puppeteer team coming (after Julian is back from PTO). We can start working on agenda items.

Project updates

- General
 - (read only) [Fixed bugs since last meeting](#)
- WebDriver BiDi
 - Implementation
 - Implement "browsingContext.create" command
 - [Julian] [Fixed] [Bug 1759559 - Implement "browsingContext.create" command](#) landed
 - [Julian] Follow up bugs:
 - [Bug 1765619 - Support the context parameter for browsingContext.create](#)
 - [Bug 1766329 - browsingContext.create should not run the focus steps when opening a new window](#)
 - Working on [Bug 1749666 - Consider using TabSwitched event instead of TabSelect](#)
 - Support for Selenium integration ([doc](#))
 - [Henrik] [Wdspec on Android](#)
 - Next: Working towards [support for opening a new tab for GeckoView](#)
 - [Enable BiDi on release channels](#)
 - [Henrik] Fixed: [Support custom Firefox command line arguments in Mochitest manifest files](#)
 - [Henrik] Fixed: [Extend the lifetime of the Remote Agent to the Firefox session](#)
 - [Henrik] Fixed: [Set "navigator.webdriver" property to true when Remote Agent is enabled](#)
 - [Julian] [Bug 1753997 - Enable WebDriver BiDi on release channels](#)
 - Ready to land, waiting for merge to land and request uplift
 - Beta simulations started: [1](#), [2](#)
 - Others
 - [Sasha]
 - Fixed: [Update remote/shared/test/xpcshell/test_Navigate.js for pending promise checks](#)
 - Fixed: [\[wdspec\] Improve BiDi specific tests for invalid types that miss `None` checks](#)

- Specification
 - Notes
 - New issue for [Network request logging](#) created by James
- Marionette
 - [Allow marionette to connect to a windowless instance of Firefox](#)
 - [Henrik] Fixed: Start [Remote Agent earlier](#) during Firefox startup
 - [Henrik] Fixed: [With the Remote Agent starting earlier the "session.new" command has to wait for the browser window](#)
 - Next: Fixing [perma failure for debugger_address.py test](#) before finalizing the Marionette patch
- Geckodriver
 - [jgraham] [Temporary Firefox profile cannot be accessed by snap package on Ubuntu](#)

Engineering Highlights

- The [browsingContext.create](#) command landed last week in Nightly. Combined with the other commands added during the milestones, consumers can now open tabs, navigate and close tabs only using WebDriver BiDi APIs.
- With the landed changes for the Remote Agent component the ["navigator.webdriver" property](#) is now correctly set when one of our automation protocols (Marionette, WebDriver BiDi, CDP) is enabled and running. That means once today's merge has been done we will land the patch that will [enable the WebDriver BiDi protocol on the release channels](#) and will request uplift for the 101 release train.
- We further discussed and finalized the process of tracking the work of the webdriver project. It means that we are going to start the detailed planning process for the next milestone now.

April 25

Facilitator: Julian

Notetaker: Henrik

Attendees: Henrik, Marco, Honza, Sasha, James, Julian

Agenda/Notes

- [Marco] Review Project Status - [M3 Project Dashboard](#)
 - Completion Forecast
 - The growth of the product backlog and drop in point completion caused an expansion in all forecast completion scenarios by three weeks.
 - Forecast completion is now between May 29 and June 26 with an expected target of June 05.
 - Point Completion

- 3 points completed in the previous week for a total completion of 149 points.
 - The growth of the product backlog and drop in point completion caused the total completion to drop a further 2% from 76% to 74%.
 - The total completion has dropped 5% in the past two weeks.
 - Velocity
 - The drop in point completion in the previous week caused a decrease in all velocity ranges.
 - Velocity is now between 5.9 points/week and 12.7 points/week with an expected target of 9.3 points/week.
 - Scope Changes
 - 10 points of new work added in the previous week.
 - Average scope change:
 - Overall - 10 points/week of new work added.
 - Since Forecast - 12 points/week of new work added.
 - Backlog Size
 - Backlog has expanded by 38 points for a total of 202.
- [Marco] Next Steps
 - Immediate end to backlog expansion to restart the burndown of the backlog.
 - Review backlog to remove items that can wait till our first team-based Initiative.
- [Honza] Planning for 2022, check-in:
 - DONE #1 - **Infrastructure** (2021)
 - DONE #2 - **log.entryAdded Event** (2021)
 - WIP #3 - **Navigation** (3.5 months atm, plan 5, 2022)
 - Schedule: January 9 - June 5 (6 weeks left)
 - Conservative forecast completion - June 26 (see also original schedule in [PRD](#))
 - #4 - **Script Execution** = 3 months? (2022)
 - Sandboxing
 - Evaluate + callFunction
 - Serialization + Deserialization
 - #5 - **Network Interception** = 3 months? (Q4, 2022)
 - Logging (powerful & requested)
 - [HAR](#) (Response Bodies + Timings) <- Needed by Patrick Meenan (Google, making the web faster, [webpagetest.org](#))
 - Notes
 - [henrik] It requires the spec to be done first
 - [james] Logging would be required first for HAR reports which should be fine to have done by August; we can already work on to get the API agreed on
 - Interception will be harder and should follow afterward
 - [Henrik] Also see our [Milestone planning document for M4](#)
- [Honza] Team-based Initiative Development Cycle ([doc](#))

Project updates

- General
 - (read only) [Fixed bugs since last meeting](#) (April 11th)
- WebDriver BiDi
 - Implementation
 - Implement "browsingContext.create" command
 - [Julian] Handling the context parameter was moved to a followup [Bug 1765619 - Support the context parameter for browsingContext.create](#)
 - Patches for the [basic implementation](#) are under review
 - Relevant spec issues:
 - [PR for context argument](#)
 - [Discussion about making `type` optional](#)
 - Support for Selenium integration ([doc](#))
 - [Henrik] [Wdspec on Android](#)
 - Next: Working towards [support for opening a new tab for GeckoView](#)
 - [Henrik] [Enable BiDi on release channels](#)
 - Finally got the email from dveditz. We are going to update our documentation to express that remote debugger connections (Remote Agent and Marionette) are based on insecure connections and as such could be observed by anyone within the same network if clients do not connect via localhost
 - What's still blocking us from enabling on beta/release:
 - Fixed: [Remove accepting non-local connections \(including the "remote.force-local" preference\)](#)
 - Fixed: [Remove some of the browser chrome Remote Agent tests to wdspec](#)
 - Review: [Support custom Firefox command line arguments in Mochitest manifest files](#)
 - Review: [Extend the lifetime of the Remote Agent to the Firefox session](#)
 - Next: [Set "navigator.webdriver" property to true when Remote Agent is enabled](#)
 - Others
 - [Henrik]
 - Fixed: [Rename "parent" parameter of "browsingContext.getTree" to "root"](#)
 - Fixed: [waitForInitialNavigationCompleted doesn't wait for a potential page load after about:blank](#)
 - [Sasha]
 - Fixed: [Incorrect error message when trying to call an unknown internal command](#)

- Fixed: [Review if TabManager.getIdForBrowsingContext is needed](#)
 - Review: [Update remote/shared/test/xpcshell/test_Navigate.js for pending promise checks](#)
- Specification
 - [jgraham]
 - Created simple [proposal for user prompt handling](#)
 - [PR](#) to move CI checks to Rust CDDL library and upload artifacts
 - Ongoing discussion about [remote object lifetimes](#)
 - [PR](#) for making actions state per top-level-browsing context (and session)
- Marionette
 - [Allow marionette to connect to a windowless instance of Firefox](#)
 - Review: Start [Remote Agent earlier](#) during Firefox startup (will hopefully land later today)
 - Puppeteer upstream patches ([8233](#), [8250](#)) landed and included in our in-tree changes
- GeckoDriver
 - No updates

Engineering Highlights

- [Enabling the WebDriver BiDi protocol on the release channels](#) can happen soon once the [“navigator.webdriver” property is properly set](#) when the Remote Agent including both the WebDriver BiDi and CDP protocol are enabled.
- Implementation for [browsingContext.create](#) is currently under review. There are still open discussions on the specification side around the [type](#) and [context](#) arguments, but they will be handled in follow-up bugs.
- As requested by the Application update team we are also working on [window-less support for Marionette](#) to allow client interactions without a Firefox window being open. The first patch that will land soon will be the [early startup of the Remote Agent](#) which blocks Marionette from doing that as well.

April 18

Agenda/Notes

- Chart - Completion Forecast
 - The growth of the product backlog and drop in point completion in the previous week caused an expansion in all forecast completion scenarios.
 - The Optimistic & Expected completions scenarios each expanded by two weeks while there was a three week expansion in the Conservative completion scenario.
 - Forecast completion is now between May 15 and June 12 with an expected target of May 22.

- Chart - Point Completion
 - 7 points completed in the previous week for a total completion of 146 points.
 - The growth of the product backlog and drop in point completion caused the overall completion rate to drop 3% from 79% to 76%.
- Chart- Velocity
 - The drop in point completion in the previous week caused a decrease in all velocity ranges.
 - Velocity is now between 6.4 points/week and 13.0 points/week with an expected target of 9.7 points/week.
- Chart - Scope Changes
 - 17 points of new work added in the previous week.
 - Average scope change:
 - Overall - 10 points/week of new work added.
 - Since Forecast - 12 points/week of new work added.
- Chart - Backlog Size
 - Backlog has expanded by 28 points for a total of 192.

Engineering Highlights

- We had to rework the tests added last week for the `browsingContext.navigate` command, to [avoid frequent intermittent failures](#). Tests seem to be stable now without having to disable any of them.
- Speaking of tests we also [migrated our existing WebDriver BiDi test to use the new `navigate` command](#) instead of falling back on the WebDriver HTTP version. Ultimately, BiDi tests should not depend on any WebDriver HTTP command.
- This week we started working on a new command, [`browsingContext.create`](#), which is used to open new tabs and windows. This command is important both for end users as well as for our own tests, to remove another dependency on WebDriver HTTP. Should be in review next week.

Apr 11, 2022

Facilitator: Honza

Notetaker: James

Attendees: Marco, Henrik, James, Honza, Sasha, Julian

Agenda/Notes

- [Marco] Review Project Status - [M3 Project Dashboard](#)
 - Now between May 1st and May 22nd, expected is 8th. But triage meeting changes may delay this.
 - Increased points completed reduced conservative estimate.
 - 6.5-13.3 points/week.
 - 4 points added.

- 14 points added in triage, so expected 1-2 weeks shift.
 - Still have 16 points that we could move to the next milestone if we wanted.
- Still another meeting for new tracking approach?
 - Going to write everything in a document to make sure the process is clear.
 - Next meeting not yet planned.
 - Document expected this week.
 - This milestone using current process should be assumed to be complete by 1st June.

Project updates

- General
 - (read only) [Fixed bugs since last meeting](#)
- WebDriver BiDi
 - Implementation
 - Basic Navigation support
 - Landed [Bug 1730642 - Implement basic support for "browsingContext.navigate" command](#)
 - Filed several follow up bugs for edge cases blocking [Bug 1730641 - \[meta\] Support "browsingContext.navigate" command](#)
 - One macos intermittent highlighting an issue when doing two successive navigation, first being with wait=none
 - Support for Selenium integration ([doc](#))
 - [Henrik] [Wdspec on Android](#)
 - [Fixed] Dismissing an user prompt is racy in GeckoView
 - [Fixed] [Print to PDF tests are broken](#) because GeckoView crashes when attempting to create a temporary file
 - [Print to PDF tests are still broken](#) because of security exception in GeckoView when calling getServiceProvider
 - Next: Working towards [support for opening a new tab for GeckoView](#)
 - [Henrik] [Enable BiDi on release channels](#)
 - Required changes from the security review meeting have been addressed. Still awaiting the final email from Dan (back on Apr 4th - asked again and CC'd Christoph)
 - Others
 -
 - Specification
 - [jgraham] - WebDriver actions changes landed. Will make BiDi PR not a draft.
 - Spec meeting Wednesday.
- Marionette
 - [Allow marionette to connect to a windowless instance of Firefox](#)
 - Work on starting [Remote Agent earlier](#) to be continue this week
- Geckodriver

- [Henrik] [geckodriver 0.31.0 released on April 11th](#)
 - Includes the features we need for BiDi on release channel
 - Also includes initial support for shadow DOM, but we don't yet have the commands to find elements inside the shadow tree.
 - We have a patch for that, but no recent updates.

Engineering Highlights

- We landed a first implementation of the [browsingContext.navigate command](#). Users can rely on this command to navigate tabs or frames, with various wait conditions. [Follow up bugs have been filed](#) to handle edge cases, and we can also start working on navigation events.
- On April 11th [geckodriver 0.31.0](#), which is our proxy for W3C WebDriver compatible clients to interact with Gecko-based browsers, was released including some fixes and improvements in our WebDriver BiDi support and a new command for retrieving a DOM node's ShadowRoot.

April 4

Facilitator: Henrik

Notetaker: Julian

Attendees: Henrik, Honza, Sasha, Julian

Agenda/Notes

- [Honza] Review Project Status - [M3 Project Dashboard](#)
 - All scenarios ahead of schedule
 - 1 week contraction for conservative scenario
 - 11 points compl last week, 73% completion for whole project
 - Expected/conservative velocity increased. Optimistic stable
 - Only 2 points added in the prev week. Adding ~10pts / week
 - Backlog size is mostly stable

Project updates

- General
 - (read only) [Fixed bugs since last meeting](#)
- WebDriver BiDi
 - Implementation
 - Basic Navigation support
 - [Julian] [Bug 1730642 - Implement basic support for "browsingContext.navigate" command](#)
 - Internal events are now emitted both as `message-handler-event` as well as with their own names ([phab](#))

- Added helper to monitor internal events cross process ([phab](#))
 - Patches under review, maybe split out the internal event work?
- Support for Selenium integration ([doc](#))
 - [Henrik] [Wdspec on Android](#)
 - [Fixed] [Marionette is not able to detect and handle user prompts on Android](#) (thanks to Olivia)
 - For now only supports alert, prompt, confirm
 - [Fixed] [Enable Wdspec tests on Android](#)
 - Dismissing an user prompt is racy and [needs a fix in GeckoView](#)
 - [Print to PDF tests are broken](#) because GeckoView crashes (maybe due to the feature not available yet)
 - Maybe [Bug 1659819 - Add API for saving current page as a PDF](#)
 - [We have to support opening a new tab for GeckoView](#) (required lots and lots of tests to be disabled)
 - [Henrik] [Enable BiDi on release channels](#)
 - Required changes from the security review meeting have been addressed. Still awaiting the final email from Dan (back on Apr 4th)
- Others
 - [Julian] Will resume work on [browsingContext.create](#)
- Specification
 - N/A
- Marionette
 - [Allow marionette to connect to a windowless instance of Firefox](#)
 - Active: Removing `marionette-startup-requested` notification in favor of `final-ui-startup` notification.
 - Remaining issue with browser.focus() fixed by waiting for the browser-delayed-startup-finished notification
 - Sadly Marionette is busted if BiDi is enabled - also [requires the Remote Agent to be started earlier](#), which is now blocking
- Geckodriver
 - [Henrik] [\[wdspec\] Refactor Browser and Geckodriver classes for fixtures in wdspec tests](#)
 - [Henrik] [geckodriver 0.31.0 release](#) status
 - Fixed: [Move handling of optional hosts and origins from using preferences to command line arguments](#)
 - Preparing the release for this week

Engineering Highlights

- We finished the work of [switching the usage of optional hosts and origins settings from preferences to command-line arguments](#). This will raise user awareness when adding these additional hosts and origins that need to be accepted for new WebSocket connections by WebDriver BiDi clients.
- We enabled most of the existing [Webdriver tests on Android](#). This will make sure that all existing WebDriver APIs will now be tested regularly for GeckoView and that regressions on this platform will be detected. More tests can be enabled once [Marionette will support opening new tabs](#).
- Patches for [browsingContext.navigate](#) are under review, including framework improvements to easily monitor events across processes.

Mar 28, 2022

Facilitator: Julian

Notetaker: Honza

Attendees: Honza, Julian, Henrik, Marco

Agenda/Notes

- [Marco] Review Project Status - [M3 Project Dashboard](#)
 - Notes
 - Everything looking bright

Project updates

- General
 - (read only) [Fixed bugs since last meeting](#)
- WebDriver BiDi
 - Implementation
 - Basic Navigation support
 - [Julian] [BrowsingContext.navigate](#)
 - Moving shared RootMessageHandler helper to a BiDi module to rely on session data
 - In the future we should support shared modules instead
 - (blocked on OS update to try out better navigation ids, can't do full builds atm)
 - Notes
 - Need info from Content as well as Parent process
 - Patches updated and ready for review
 - Support for Selenium integration ([doc](#))
 - [Henrik] [Enable Wdspec on Android](#)

- Helping Olivia to get modal dialogs working - backouted and should land soon again [with additional prompt types not emitted](#) yet (like select, datetime and color fields)
 - Notes
 - Limited support (for: alert, prompt, confirm only atm)
 - More conversation needed to have full support in place
 - Olivia should land today
 - [Henrik] [Enable BiDi on release channels](#)
 - Security meeting happened and bugs have been filed to address the mentioned review comments.
 - Notes
 - Waiting for Dan (back from PTO next week)
 - Others
 - [Julian] Fixed: [Implement "browsingContext.close" command](#)
 - Notes
 - Conversation about what to do after the last context is closed needed yet (for the spec)
 - [Julian] In progress [Bug 1759559 - Implement "browsingContext.create" command](#)
 - Specification
 - [jgraham] - [Actions refactor PR](#) for WebDriver is up
 - [jgraham] - Dependent patch to [serialize access to actions](#)
 - [jgraham] - [Security checks patch](#) updated
 - [jgraham] - Proposed a [BiDi command](#) to get a screenshot
 - [jgraham] - Reviewed Maksim's proposal for [explicit shared references](#)
- Marionette
 - [Firefox-ui functional tests are remote only now](#)
 - Some tests (safe browsing, security) remain - might want to move tests to a separate Mn job (tier 2 - because of network access)
 - [Allow marionette to connect to a windowless instance of Firefox](#)
 - Active: Removing `marionette-startup-requested` notification in favor of `final-ui-startup` notification.
 - Notes
 - Some issues with Browser.focus() need to be solved yet
- Geckodriver
 - [Henrik] [geckodriver 0.31.0 release](#) status
 - Fixed: [geckodriver fails to connect to Marionette if an older MarionetteActivePort file is in the profile](#)
 - Active: [Move handling of optional hosts and origins from using preferences to command line arguments](#)
 - Two optional bugs remaining, will see if we want to fix them or go ahead and release geckodriver 0.31.0.

Engineering Highlights

- We landed support for the [browsingContext.close](#) command which allows users to close a given top-level browsing context (aka tab). There is still a little bit of work to do once the browser testing group has agreed on what has to happen when the last tab (window) gets closed.
- We are working on [switching their setting from preferences to command-line arguments](#). The aim is to raise user awareness when adding additional hosts and origins that need to be accepted for new WebSocket connections by WebDriver BiDi clients. Reviews should start this week.
- We are making progress with the [implementation of BrowsingContext.navigate](#). This is the first command to combine information from parent and content processes. We are extending our framework to support this, for instance, monitoring a specific browsing context.

Mar 21, 2022

Facilitator: Honza

Notetaker: Henrik

Attendees: Marco, Henrik, Honza, Julian

Agenda/Notes

- [Marco] Review Project Status - [M3 Project Dashboard](#)

Project updates

- General
 - (read only) [Fixed bugs since last meeting](#)
- WebDriver BiDi
 - Implementation
 - [Henrik] Fixed: [Implement browsingContext.getTree command](#)
 - First command that is feature complete
 - Basic Navigation support
 - [Julian] [Bug 1730642 - Implement basic support for "browsingContext.navigate" command](#)
 - Added patches to phabricator, with tests for slow loading pages/resources scenarios
 - Use cases not covered: canceled navigation, download
 - One issue: relying on an internal event which is only emitted when MessageHandlers get created. Need some Session Data to work...
 - Support for Selenium integration ([doc](#))
 - [Henrik] [Enable Wdspec on Android](#)

- Helping Olivia to get modal dialogs working - seems that one issue is remaining only when trying to find already open dialogs
 - [Henrik] [Enable BiDi on release channels](#)
 - Security meeting happened and bugs have been filed to address the mentioned review comments.
 - Others
 - [Henrik] [Update Remote Protocol docs for running specific Puppeteer tests only](#)
 - Specification
 - N/A
- Marionette
 - [Allow marionette to connect to a windowless instance of Firefox](#)
 - Test jobs are much cleaner now ([try build](#))
 - Next: Removing `marionette-startup-requested` notification in favor of `final-ui-startup` notification.
- GeckoDriver
 - [Henrik] [geckodriver 0.31.0 release](#) status
 - Review: [geckodriver fails to connect to Marionette if an older MarionetteActivePort file is in the profile](#)
 - [Move handling of optional hosts and origins from using preferences to command line arguments](#)
 - [Disable session restore infobar for marionette tests, webplatform tests and geckodriver](#)
 - Two optional bugs remaining, will see if we want to fix them or go ahead and release.

Engineering Highlights

- We landed support for the [browsingContext.getTree](#) command, which allows users to get information about all the browsing contexts currently available in the browser. This is the first command to be feature-complete, implementing 100% of the corresponding specification.
- We are still working on the [browsingContext.navigate](#) command. Because navigation is an important part of automated testing we want to have support sooner rather than later and, as such, we are focusing on simple navigation scenarios for the first iteration. We will tackle edge cases in follow-up bugs. Reviews should start this week.
- We met with the security team to assess the remaining blockers before [WebDriver BiDi can be enabled on the release channel](#). A few items were identified, such as [switching from preferences to command-line arguments](#) to raise user awareness. Bugs have been filed and are being worked on already.

March 14, 2022

Facilitator: Henrik

Notetaker: Julian

Attendees: Marco, Henrik, Honza, James, Julian

Agenda/Notes

- [Marco] Review Project Status - [M3 Project Dashboard](#)
 - All scenarios ahead of schedule.
 - 11 points last week, 57% compl rate
 - Added 3 points, scope change moved from 10 -> 9
 - Only 6 points remaining !
- [Marco] Backlog Review - [Available MVP](#)
 - Will move documentation out of m3 P2 back to P3, and bring context.close and create to m3
- [Henrik] Sharing Milestone status publicly
 - We want the status to be shared on the [Wiki project page](#)
 - This is meant for external people who want to keep track of the progress
 - The status was removed from the template for this meeting
 - Can we get a good view via a shared export?
 - Marco will create a written version of the report for the wiki, which will be also plugged in from the email.
 - Can also post the link to the dashboard export
 - => Let's use a link to the dashboard export

Project updates

- General
 - (read only) [Fixed bugs since last meeting](#)
- WebDriver BiDi
 - Implementation
 - Basic Navigation support
 - [Julian] [Bug 1730642 - Implement basic support for "browsingContext.navigate" command](#)
 - Started implementation, but blocked on having a reliable navigation id see [comment#6](#)
 - Will do a first version without navigation id (or with a simple one)
 - Should not look at network events
 - For CDP, channel id from network events seem to be working
 - Support allowed hosts & origins
 - [Julian] [Bug 1750689 - Add opt-in support for hosts and origins other than local loopback interfaces for WebDriver BiDi](#)

- Landed, filed [Bug 1759004 - RemoteAgent requests using a relative path and with a custom host header will be rejected by httpd.js](#)
- Support for Selenium integration ([doc](#))
 - [Henrik] [Enable Wdspec on Android](#)
 - Helping Olivia to get modal dialogs working - as of now not all dialogs are closed
 - [Henrik] [Enable BiDi on release channels](#) (meeting scheduled March 16th)
- [Henrik] Review: [Implement browsingContext.getTree command](#)
- Others
 - [Henrik] [Use "Module" suffix for all internal WebDriver BiDi module class names](#)
- Specification
 - Refactoring actions in WebDriver so we can call it from BiDi.
 - Existing webdriver spec is a bit buggy, but this is in progress.
 - Sandbox API landed
 - Discussion on DOM objects vs JS Objects
 - Question about whether the DOM object id should be reusable across sandbox. Idea is to have a cross sandbox dom id, and sandbox specific object id.
- Marionette
 - [Allow marionette to connect to a windowless instance of Firefox](#)
 - Fixed: [Improvements for js/xpconnect/tests/marionette/test_preloader_telemetry.py](#)
 - Fixed: Fixing remaining failures especially on Android
 - Test jobs are much cleaner now ([try build](#))
 - Next: Discussed with product stakeholders about the right place for emitting the *marionette-startup-requested* notification. Decided to get it removed and instead listen for the *final-ui-startup* notification. Same should happen for *remote-startup-requested* - but moved as follow-up bug.
- Geckodriver
 - [Henrik] [geckodriver 0.31.0 release](#) status
 - Needs: [geckodriver fails to connect to Marionette if an older MarionetteActivePort file is in the profile](#)
 - Two optional bugs remaining, will see if we want to fix them or go ahead and release.

Status Report

Engineering Highlights

- We added support for [custom hosts and origins headers for incoming BiDi connections](#). Thanks to this, the BiDi implementation in Firefox is now compatible with most clients,

which is great for end-users as well as for testing. Note that more work is still required for complex setups, for instance [using docker](#).

- We are currently working on two new commands for the browsingContext module:
 - [browsingContext.getTree](#) will allow you to query information about the currently available browsing contexts. We are leveraging earlier efforts to introduce unique ids for those browsing contexts, that can be [shared between WebDriver BiDi, WebDriver HTTP and CDP when needed](#).
 - [browsingContext.navigate](#) allows you to start a navigation for an existing browsing context. Last week we already landed a helper to [perform the actual navigation](#), and we are now working to expose it as a WebDriver BiDi command.

March 8, 2022

Facilitator: James

Notetaker: Honza

Attendees: Marco, Henrik, Honza, James, Julian

Agenda/Notes

- [Marco] Review Project Status - [M3 Project Dashboard](#)
- [Marco] Transition Planning
 - Reset the conversation.
 - Maire's requirements for her Platform teams -
 - *Transparency as to what features are currently in development, the rationale as to why those vs. others and what is the schedule for when they will be completed.*
 - Your requirements - homework for Thursday March 10.
 - Honza and I will present you options which will attempt to find a balance between the two sets requirements.
 - Notes
 - [Henrik] What are Maire's requirements (what the higher management wants to know)
 - When things are going to be done (it isn't enough to say 'it'll take long time')
 - Roadmap
 - [Marco] Status updates, feedback
 - Details about what work is happening, who's working on it
 - There is little about why things are important and how it fits produce roadmap
 - There should be good balance between data and editorial
 - [Honza] get more details from Maire (to refine the process)
 - Scheduling: quarterly?
 - Increase confidence
 - [Honza] continue the conversation tomorrow.

Project updates

- General
 - (read only) [Fixed bugs since last meeting](#)
- WebDriver BiDi
 - [Project Status](#)
 - This week: 42 Total; 11 Open (26.19%); 30 Resolved (71.43%) [12 points]
 - Last week: 38 Total; 11 Open (28.95%); 26 Resolved (68.42%)
 - Implementation
 - Basic Navigation support
 - [Julian] [Bug 1756809 - Implement basic navigation helper for message handler](#)
 - Fixed, one [low frequency intermittent](#)
 - Moving on to [Bug 1730642 - Implement basic support for "browsingContext.navigate" command](#)
 - Support allowed hosts & origins
 - [Julian] [Bug 1750689 - Add opt-in support for hosts and origins other than local loopback interfaces for WebDriver BiDi](#)
 - Investigating potential intermittent on macos for the new wdspec test
 - Need to migrate from mozprocess to mozrunner
 - Support for Selenium integration ([doc](#))
 - [Henrik] Fixed: [Prevent private messagehandler commands from being called via the WebSocket connection](#)
 - [Henrik] [Enable Wdspec on Android](#)
 - Helping Olivia to get modal dialogs working - we now receive the correct events - done hopefully soon
 - [Henrik] [Enable BiDi on release channels](#) (meeting scheduled March 16th)
 - Others
 - [Henrik] Fixed: [Add "--no-install" option to "mach puppeteer-test" to not always install the package](#)
 - Specification
 -
- Marionette
 - [Allow marionette to connect to a windowless instance of Firefox](#)
 - Fixed: Fix broken tests that have SessionStore enabled and restart Firefox
 - Fixed: Investigated failures in test_preloader_telemetry.py and improved test
 - Next: Fixing remaining failures especially on Android ([try](#))
 - TODO: Working with product folks to find right place for emitting the *marionette-startup-requested* notification

- [jgraham] Actions refactor patch should be possible to review without subsequent feature additions
- Geckodriver
 - [Henrik] [geckodriver 0.31.0 release](#) status
 - Fixed: [geckodriver doesn't connect to Marionette anymore if profile name has been specified](#)
 - Needs: [geckodriver fails to connect to Marionette if an older MarionetteActivePort file is in the profile](#)

Status Report

- Engineering Highlights

Feb 28, 2022

Facilitator: Julian

Notetaker: Henrik

Attendees: Marco, Henrik, Honza, James, Julian

Agenda/Notes

- [Marco] Review Project Status - [M3 Project Dashboard](#)
- [Marco] Team Transition - Backlogs.
 - Two backlogs in a team environment.
 - Product Backlog.
 - General collection of all bugs related to the team's responsibilities.
 - No need to prioritize or add points to unassigned bugs.
 - Candidates are tagged for triage and reviewed before adding.
 - This backlog feeds the Release Backlog.
 - Release Backlog.
 - Specific collection of bugs selected by the team to include in a release.
 - Bugs are selected from the general Product Backlog.
 - All bugs in the Release Backlog are prioritized and have assigned points.
 - New bugs to be included after the start of a release are tagged for triage and reviewed before adding.
 - Each Release Backlog is unique with its own tagging.
 - Notes
 - We will have to discuss how we can get this implemented
 - Whiteboard entries or meta bugs
 - Release backlog will use P1 (conservative forecast), P2 (expected), P3 (optimistic)
 - Product backlog is covered by our normal bug triage process
- [Marco] Team Transition - Homework.
 - Team Name

- Release Duration (e.g. quarterly, Firefox Release, H1&H2 timeline, etc.)
 - To avoid overhead it's good to have the same number of releases per year with a fixed duration
- Participating Engineers
- [Marco] Upcoming Team Transition Topics:
 - Planning & Backlog Selection
 - Capacity, Prioritization & Forecasting
 - Execution - triage, contingency, bug movement (in/out & across priorities, etc.)
 - Reporting

Project updates

- General
 - (read only) [Fixed bugs since last meeting](#)
- WebDriver BiDi
 - [Project Status](#)
 - This week: 38 Total; 11 Open (28.95%); 26 Resolved (68.42%) [4 points]
 - Last week: 34 Total; 9 Open (26.47%); 24 Resolved (70.59%)
 - Implementation
 - Basic Navigation support
 - [Julian] [Bug 1756809 - Implement basic navigation helper for message handler](#)
 - Support for Selenium integration ([doc](#))
 - [Henrik] [Enable Wdspec on Android](#)
 - Helping Olivia to get modal dialogs working
 - Awaiting feedback from early Selenium integration
 - Support allowed hosts & origins
 - [Bug 1750689 - Add opt-in support for hosts and origins other than local loopback interfaces for WebDriver BiDi](#)
 - Still having issues with the test, remote agent server is not starting on Windows Debug
 - Others
 - [Henrik] Fixed: [Replace uuid from TabTarget.id with unique window identifiers as used by WebDriver](#)
 - [Henrik] Fixed: [wptrunner doesn't force-stop the browser when a wdspec test hits an external timeout](#)
 - Specification
 - [BrowsingContext.close PR](#) landed
 - Platform object ids across sandboxes
- Marionette
 - [Henrik] [Allow marionette to connect to a windowless instance of Firefox](#)
 - Investigation of how to handle Session Restore when being enabled by specific tests.
 - Next: Working with product folks to find right place for emitting the *marionette-startup-requested* notification

- [jgraham] Implement wheel and scroll actions
 - EventUtils patch landed
- Geckodriver
 - [Henrik] [geckodriver 0.31.0 release](#) status
 - Needs: [geckodriver doesn't connect to Marionette anymore if profile name has been specified](#)
 - Patch up but not yet completed.
 - Should consider dropping support for this. Should warn for the next release and then fail for subsequent releases.
 - Needs: [geckodriver fails to connect to Marionette if an older MarionetteActivePort file is in the profile](#)

Status Report

- Engineering Highlights

Feb 21, 2022

Facilitator: Honza

Notetaker: James

Attendees: Marco, Henrik, Julian, James, Honza

Agenda/Notes

- [Marco] Review Project Status - [M3 Project Dashboard](#)

Project updates

- General
 - (read only) [Fixed bugs since last meeting](#)
 - Latest update is expected completion on May 8th.
 - 41% points complete.
 - Expected 9.6 points/week but still fluctuating.
 - Contingency projected to run on March 27th.
- WebDriver BiDi
 - [Project Status](#)
 - This week: 34 Total; 9 Open (26.47%); 24 Resolved (70.59%) [23 points]
 - Last week: 28 Total; 8 Open (28.57%); 20 Resolved (71.43%)
 - Implementation
 - [Henrik] Support for Selenium integration ([doc](#))
 - Fixed: [Julian] [Only validate Origin header for remote agent websockets connection if BiDi is enabled](#)
 - Temporary until the [Bug 1750689](#) patch lands

- Selenium will start testing dev edition so we can find regressions before they reach release.
 - [Henrik] [Enable Wdspec on Android](#)
 - We are always running into task timeouts which break uploading artifacts.
 - Next: Helping Olivia to get modal dialogs working. Otherwise a lot of metadata needs to be added to disable all prompt tests on Android
- [Julian]
 - [Bug 1750689 - Add opt-in support for hosts and origins other than local loopback interfaces for WebDriver BiDi](#)
 - In review need to update the patches
 - Do we need security review? Could be helpful to ensure that we didn't make a mistake.
 - Should block geckodriver release.
 - [Bug 1664165 - Make use of a webprogress listener instead of page load events for tracking active navigations](#)
 - Will submit patches for a simple MessageHandler navigation helper
 - Bug will be split into smaller bugs.
- Specification
 -
- Marionette
 - [Henrik] [Allow marionette to connect to a windowless instance of Firefox](#)
 - No updates
 - Next: Fix broken tests that have SessionStore enabled and restart Firefox
 - Next: Working with product folks to find right place for emitting the *marionette-startup-requested* notification
 - [jgraham] - Initial patches for touch and wheel actions up on Phabricator
 - Still some bugs to fix with touch input and other test failures to investigate.
- Geckodriver
 - General:
 - [Henrik] [\[wdspec\] New AsyncPoll helper to wait for specific states](#)
 - [Henrik] [\[wdspec\] BiDi tests should use "asyncio.sleep\(\)" and not "time.sleep\(\) which blocks](#)
 - [Henrik] [geckodriver 0.31.0 release](#) status
 - Fixed: [Patches up for pulling files from the device](#)
 - Needs: [geckodriver doesn't connect to Marionette anymore if profile name has been specified](#)
 - Patch up but not yet completed.
 - Should consider dropping support for this. Should warn for the next release and then fail for subsequent releases.
 - Needs: [geckodriver fails to connect to Marionette if an older MarionetteActivePort file is in the profile](#)

- Wanted: [Save minidump files if MINIDUMP_SAVE_PATH is set](#)
 - Performance team wants this.

Status Report

- Engineering Highlights
 - Support for the `browsingContext.contextCreated` event has been added which gets emitted to clients when a new browsing context is created i.e. by opening a new tab or window, or when a new frame is attached to a document.

Feb 14, 2022

Facilitator: Henrik

Notetaker: Julian

Attendees: Henrik, Marco, Julian, Honza

Agenda/Notes

- [Honza] Project Tracking Improvements (suggestions)
 - Extend our milestone to 6 months (3 => 6)
 - More space in the backlog, can pick bugs while waiting for review, Alexandra will be able to have more items to pick.
 - Milestones should be week based (Monday as start and Sunday as end)
 - Schedule bigger contingency list.
 - This should help with scope management (and avoid frequent bug swapping)
 - Could include unexpected work from other components and from BiDi.
 - Contingency could be around 40%
 - All work the team is doing should be tracked
 - Including unexpected Marionette and GeckoDriver tasks
 - Cannot plan for that, can happen when teams request new features from us. Feels bad because it is not included in the project.
 - Henrik: If we track everything, it won't be a BiDi project, it will be a team project. If stakeholders only care about BiDi there might be a mismatch
 - Honza: Tracking is not only about a project, it could be about the whole team's work.
 - Unexpected work should be included in our backlog as it happens and
 - Marked as P2 if it should be done immediately. In such cases complexity needs to be estimated.
 - Marked as P3 if the work doesn't have to start immediately. In this case we don't have to estimate the complexity.
 - If the backlog is regularly triaged and kept up to date, it's simpler to get it ready for the next milestone (all P3s become P2s).
 - P1 = work in progress

- P2 = ready to be picked (complexity estimated)
 - P3 = doesn't have to be completed in this milestone (but can included in the next one)
 - Henrik: If we have weekly triage, if we don't have that many P2s do we need to upgrade P3s as P2s? Do we have to pick? To agree/discuss?
 - Honza: Yes should be a team discussion.
 - Henrik: When we are behind we should move from P2 to P3 and when we have room, we should do the opposite, but should always be a discussion.
- There doesn't have to be gaps in between milestones if the backlog is immediately ready for the next one.
 - When planning is needed for the next milestone, it should be done before it starts.
 - Could be as easy as turning P3 to P2s? But if planning is needed, it should happen outside of the timeframe of the milestone
 - Henrik: when we are close to the end, we know how many P3s we will be able to tackle and how many we should move
 - Julian: There are also new things (new theme of that milestone), so P3->P2 is not enough. There will always be a need for planning.
- Key improvements
 - Extend the duration of the milestone
 - Increase the contingency to avoid the swapping (even if it can still happen)
 - Henrik: What about the project name?
 - Marco: Transition from a project based model to a team based model requires a fundamental shift. I would still keep M3 as is. Transition over the next milestone. Every release can be themed differently. Keep m3 as is except for time frame changes. The model is more flexible compared to a project based model. If the content of the release has to change, embrace it.
- [Henrik, Julian] Tracking of milestones
 - There are a number of great benefits we get from the tracking
 - Crisp estimates for WebDriver BiDi related work for the current milestone
 - Reports as sent to stakeholders for BiDi updates
 - What's not working that well and where we might wanna see improvements
 - Complete timespan of a milestone is not fully tracked (beginning and end might miss some days, i.e end of M1 is March 31 but dashboard has 27th which are 4 days lesser)
 - Do we always need such a long calculation before the first forecast can be done? Note that this misses updates to stakeholders for quite some time (we achieved a lot already in M3 but no update has been sent out yet)
 - We have a small team and are side-tracked with other work which is not covered by the milestone. Shall we add all of our work as part of the

milestone with the caveat that it is not BiDi only, or how to better get an estimate of work progress? Only observing BiDi work clearly causes in lesser data to be used for the dashboard

- [Marco] Completion Forecast - [M3 Project Dashboard](#)

Project updates

- General
 - (read only) [Fixed bugs since last meeting](#)
- WebDriver BiDi
 - [Project Status](#)
 - This week: 28 Total; 8 Open (28.57%); 20 Resolved (71.43%) [12 points]
 - Last week: 28 Total; 11 Open (39.29%); 17 Resolved (60.71%)
 - Implementation
 - [Henrik] Fixed: Implementation of [browsingContext.contextCreated](#)
 - Next is [browsingContext.getTree](#)
 - [Henrik] Support for Selenium integration
 - Review: [Julian] [Bug 1750689 - Add opt-in support for hosts and origins other than local loopback interfaces for WebDriver BiDi](#)
 - [Henrik] [Enable Wdspec on Android](#)
 - Fixed: [MessageHandler: Support for other applications than Firefox desktop](#)
 - Next: Job artifacts not generated and uploaded
 - [Julian] In review [Bug 1750689 - Add opt-in support for hosts and origins other than local loopback interfaces for WebDriver BiDi](#)
 - Test at <https://phabricator.services.mozilla.com/D138319> , please take a look and let me know if that's worth pursuing.
 - [Julian] In review [Bug 1753939 - Event log.entryAdded should not report Console API calls for webextensions \(webcompat\)](#)
 - Specification
 - [Julian] [BrowsingContext.close command PR](#)
 - Pinged Puppeteer folks in the [issue](#) no feedback yet.
- Marionette
 - [Henrik] [Allow marionette to connect to a windowless instance of Firefox](#)
 - Not really an update this week - but Kirk is happy with the patch and covers their scenarios
 - Next: Fix broken tests that have SessionStore enabled and restart Firefox
 - Next: Working with product folks to find right place for emitting the *marionette-startup-requested* notification
 - [Julian] Prevent connections during marionette tests
 - Fixed: [Bug 1272255 - Marionette driven tests are missing support for MOZ_DISABLE_NONLOCAL_CONNECTIONS](#)
 - We might still have intermittent connections
- Geckodriver

- [Henrik] [geckodriver 0.31.0 release](#) status
 - Regression: [geckodriver doesn't connect to Marionette anymore if profile name has been specified](#)
 - Review: [Patches up for pulling files from the device](#)
 - Wanted: [Save minidump files if MINIDUMP_SAVE_PATH is set](#)
-

Status Report

Engineering Highlights

Feb 7, 2022

Facilitator: James

Notetaker: Julian

Attendees: Henrik, Honza, James, Marco, Julian

Agenda/Notes

- [Marco] Forecast - [M3 Project Dashboard](#)
 - Forecast will be set on Feb 14.
 - Will we be date or work focussed?
 - A date focus may require reducing scope to finish by a specific date.
 - E.g. Finishing by the end of Q1 would require cutting 7 to 39 points.
 - A work focus may require crossing quarters to finish a specific amount of work.
 - E.g. Finishing the current backlog would be between April 3 to May 15.
 - Henrik: We chose a date driven release to give regular feedback to mgt. Hard to schedule because when new work comes in it can be high priority and the work initially planned for the milestone can move.
 - Honza: initially wanted to have quarterly milestones. Nobody pushing us either way. If 3 months milestone is a problem and 4 months would be easier we can change. No strong opinion
 -
- [Marco] [M2 Contingency Analysis](#)
 - We may not have capacity, date or work wise, to include any contingency.
 - Henrik: Same things apply
 - Honza: What took so much time during m2?
 - Henrik: Mainly under-scoped work
 - Marco: Impact of under valued work was minimal. Side activities were much more impactful.
 - Honza: There was hiring, windowless, fission cdp support...
 - Marco: that's why we wanted a fresh start

- Henrik: We might get new bugs for selenium support this week.

Project updates

- General
 - (read only) [Fixed bugs since last meeting](#)
- WebDriver BiDi
 - [Project Status](#)
 - This week: 28 Total; 11 Open (39.29%); 17 Resolved (60.71%) [6 points]
 - Last week: 23 Total; 10 Open (43.48%); 13 Resolved (56.52%)
 - Implementation
 - [Henrik] Implementation of [browsingContext.contextCreated](#)
 - Next: Working on wdspec tests - we need some WebDriver HTTP commands to get a good test coverage (New Window, Navigate, Execute Script)
 - Support for Selenium integration
 - [Henrik] [Set remote preferences for allowed hosts and origins](#)
 - [Julian] [Bug 1750689 - Add opt-in support for hosts and origins other than local loopback interfaces for WebDriver BiDi](#)
 - Specification
 - [Julian] [BrowsingContext.close command PR](#)
 - Need to define what happens when closing the last window?
 - James: we have a spec meeting this week, we should bring this up during the meeting. What we want to do with the last window. In classic, closing the last window should close the browser, but it could be left to the implementation, and we could have a "quit browser" command. We need to open the discussion.
 - Re return value: for now the PR returns nothing, should also be discussed during the meeting. It could also return the list of open windows/top level bc/number of remaining windows.
 - [Henrik] url for browsingContext.contextCreated is always about:blank
 - Lets add a discussion item to this weeks spec meeting
- Marionette
 - [Henrik] [Allow marionette to connect to a windowless instance of Firefox](#)
 - Not really an update this week - Kirk is finally testing
 - Next: Fix broken tests that have SessionStore enabled and restart Firefox
 - Next: Working with product folks to find right place for emitting the *marionette-startup-requested* notification
 - [Julian] Prevent connections during marionette tests
 - Landed [Bug 1371576 - Ensure that Firefox doesn't crash for Marionette tests when MOZ_DISABLE_NONLOCAL_CONNECTIONS is set](#)
 - Backed out [Bug 1272255 - Marionette driven tests are missing support for MOZ_DISABLE_NONLOCAL_CONNECTIONS](#)
 - [jgraham] Implementing touch/wheel inputs

- Touch pointer inputs that happen simultaneously need to happen in a single call. Making progress, but turns out to be a big amount of work. Wheel stuff is pretty much working.
- Geckodriver
 - [Henrik] [geckodriver 0.31.0 release](#) status
 - Fixed: ["binary" and "androidPackage" capabilities should be mutual exclusive](#)
 - Fixed: [Remove deprecated code and browser version checks](#)
 - Review: [Patches up for pulling files from the device](#)
 - Wanted: [Save minidump files if MINIDUMP_SAVE_PATH is set](#)
 - [Henrik] [Enable Wdspec on Android](#)
 - Landed: [downstream sync](#) of James' work for [refactoring wdspec jobs](#)
 - Next: Job artifacts not generated and uploaded

Status Report

- Engineering Highlights

Jan 31, 2022

Facilitator: Julian

Notetaker: Honza

Attendees: Henrik, Marco, James, Julian, Honza

Agenda/Notes

- [Marco] Forecast
 - [M3 Project Dashboard](#)
 - Continue collection for another two weeks.
 - Forecast & contingency will be set on Feb 14.
 - M3 Description: ([PRD](#))
 - WebDriver BiDi M3 focuses on implementing basic support for the `browsingContext.navigate` command and collaboration with the Selenium Project to include `log.entryAdded`.
 - Henrik: Risk analysis meeting needed? Marco: let's check the one from last time during the next, meeting
- [Honza] Meeting with Playwright ([notes](#)) and Puppeteer ([notes](#))
 - Next: Meeting with Cypress?
 - Should start thinking about topics etc...
 - James: Cypress is not using much from CDP, mostly impl as browser extension. Would be interesting to talk to them, but they most likely don't really want to use

traditional automation tools. Open to meeting and talking to them, but they might not be very interested in anything we have to offer.

- Honza: We should understand what they do first
- Henrik: Good to have a quick peek at their implementation before the meeting so we are prepared correctly
- Julian: they are using a few methods from CDP. Could be interesting to know if they have any need from Firefox and whether they have a connection in Firefox to talk to.
- Meta bug for Cypress support:
https://bugzilla.mozilla.org/show_bug.cgi?id=1604723
- James: they might be interested to talk to the WebExtension team
- [Henrik] Meeting with Selenium folks - a Doodle is out; please select your time
 - Henrik: we want to cooperate with the Selenium teams also talking about updating support for Fission. We might also talk about support for Android, async stack traces. We could meet later this week or next week.
- [Honza] Networking module in BiDi
 - Planning, when?
 - [Bug 1744483](#) - Automate generate HAR file on desktop and mobile
 - No good way to get performance data out of Firefox when using browsertime or web page tests - right now only possible with DevTools and the network panel open which adds quite a good amount of overhead
 - Would require the network module to be implemented
 - Maybe able to handle some commands on the network module or a separate performance module?
 - Could we have an independent module, shared with DevTools? Which would handle all the edge cases. Consumers should be able to start this module/recording simply with env variables or cmd line arguments.
 - Could we use the existing Profiler code as well?
 - James: Re priorities, network request interception is a priority for Selenium and Playwright, and it would depend on this. High priority from a spec point of view, but a lot of work, because it interacts with a lot of other specs. Not going to be easy. We don't have to wait 100% for the spec to be fully ready before we start the implementation, we could parallelize. From the spec point of view, was thinking about starting this during H1 2022. From an implementation perspective, Marionette/WebDriver also have a perf impact. Can we do something that would be lightweight enough with BiDi so that it can be used here.
 -

Project updates

- General
 - (read only) [Fixed bugs since last meeting](#)
- WebDriver BiDi
 - [Project Status](#)
 - This week: 23 Total; 10 Open (43.48%); 13 Resolved (56.52%) [4 points]

- Last week: 19 Total; 8 Open (42.11%); 11 Resolved (57.89%)
 - Implementation
 - [Henrik] Implementation of [browsingContext.contextCreated](#)
 - Fixed: [Allow to return from waitForInitialNavigationCompleted when page started loading](#)
 - Next: Started to create the wdspec tests - we need quite some WebDriver HTTP commands to get a good test coverage (New Window, Close Window, Navigate, Execute Script)
 - Now being able to get the target of a navigation via webProgress state changes; filed [request to also get it via the webProgress directly if already loading](#)
 - [Henrik] Improving support for BiDi clients
 - [Write WebDriver BiDi connection details to "WebDriverBiDiActivePort" file in the profile directory](#)
 - [Julian] Working on webprogress listener - based navigation
 - Cannot easily share a Navigation helper
 - Will try a fully MessageHandler based solution, not shared with Marionette
 - Focusing on this week
 - Specification
 - [jgraham] - Will make some spec changes from the actions work. Plan is to reuse that for BiDi also.
- Marionette
 - [Henrik] [Allow marionette to connect to a windowless instance of Firefox](#)
 - Fixed: [When restarting the application the original capabilities are lost](#)
 - Next: Fix broken tests that have SessionStore enabled and restart Firefox
 - Next: Working with product folks to find right place for emitting the *marionette-startup-requested* notification
 - [jgraham] - Working on touch input and wheel types.
 - PR should be available soon
- Geckodriver
 - [James] [Read Marionette port from MarionetteActivePort file within the Firefox profile directory](#) (desktop only for now)
 - [Henrik] [geckodriver 0.31.0 release](#) status
 - Still some dependencies left which would be good to have in the next release
 - ["Unable to find a matching set of capabilities" for Android with no --binary argument specified](#)
 - Also due to James' patch from above it might be wise to not release soon but let it stabilize. Already requested feedback from users with custom profiles.
 - [Henrik] [Enable Wdspec on Android](#)
 - Blocked on the [downstream sync](#) of James' work for [refactoring wdspec jobs](#) in wpt

- Next: Job artifacts not generated and uploaded

Status Report

- Engineering Highlights
 - Feb 14 will be the first update

Jan 24, 2022

Facilitator: Honza

Notetaker: Henrik

Attendees: Honza, Henrik, James, Marco, Julian

Agenda/Notes

- [Henrik] [Announcement for Testing Module changes \(Maja, Julian\)](#)
- [Honza] Playwright meeting scheduled for Wednesday
 - Will share the meeting doc

Project updates

- General
 - (read only) [Fixed bugs since last meeting](#)
- WebDriver BiDi
 - [Project Status](#)
 - This week: 19 Total; 8 Open (42.11%); 11 Resolved (57.89%)
 - Last week: 17 Total; 10 Open (58.82%); 7 Resolved (41.18%)
 - Implementation
 - [Henrik] Continued on browsingContext.contextCreated
 - Fixed: [Don't try to apply session data for modules that don't exist](#)
 - Next: Investigate options to wait long enough to be able to return a valid URL and not just about:blank
 - Henrik: Will split-up to return the correct url into a new bug
 - [Julian] Still working on [migrating navigation helper to webprogress listener](#)
 - Main issue remaining is about supporting the eager strategy.
 - What about having a bug to expose a ``waitForNavigationCompleted`` from `Navigate.jsm`, which doesn't depend on any ``driver`` API, and which can be used by BiDi - but still using `pageload` events. The `webprogress` listener migration is not necessary for BiDi.

- Issues with web-platform-tests
 - We are waiting for feedback from smaug
 - [jgraham] If WebProgress listener doesn't offer an event we might have to add an event to listen for DOMContentLoaded
 - Split the bug so that we can start to implement navigation for BiDi by using events
 - Specification
 - Editorial meeting on Wednesday
- Marionette
 - [Henrik] [Allow marionette to connect to a windowless instance of Firefox](#)
 - Fixed: [waitForInitialNavigationCompleted doesn't recognize uninitialized documents](#)
 - Next: Fix broken tests that have SessionStore enabled and restart Firefox
 - Next: Working with product folks to find right place for emitting the *marionette-startup-requested* notification
 - [Julian] [In progress: prevent connections during marionette tests](#)
 - Where could we set MOZ_DISABLE_NONLOCAL_CONNECTIONS? Knowing that some test suites will need non-local connections
 - Would only affect firefox-ui remote tests
 - Firefox-UI tests are targeted to move to Mn jobs (maybe Mn-remote)
 -
 - [jgraham] - In progress: implement support for touch and wheel actions
 - Started to integrate the EventUtils.js code
 - Does it support pointer events as the spec wants to have it?
 - Hacks for mochitest like the global window (copied from the cdp implementation)
- Geckodriver
 - [jgraham]
 - Fixed: [Add opt-in support for hosts and origins other than local loopback interfaces](#)
 - Fixed: [geckodriver 0.30.0 crashes when "--host ::1" argument is used](#)
 - Started implementing support for using MarionetteActivePort file on desktop.
 - [Henrik] geckodriver 0.31.0 release status
 - Using the ["--profile" argument in "moz:firefoxOptions\['args'\]" generates two profile entries in the geckoview config file](#)
 - ["Unable to find a matching set of capabilities" for Android when no -binary argument has been set](#)
 - [Henrik] [Enable Wdspec on Android](#)
 - Fixed: [\[wdspec\] Don't reset window size when tearing down a session when application doesn't support it](#)
 - Fixed: [Invocation of certutil fails because of invalid binary path](#)

- Job artifacts not generated and uploaded
- Blocked on jgraham's work for [refactoring wdspec jobs](#) in wpt

Status Report

Engineering Highlights

Jan 17, 2022

Facilitator: Henrik

Notetaker: James

Attendees: Marco, Henrik, Honza, Julian, James

Agenda/Notes

- [Henrik] [Proposal for WebDriver BiDi Milestone 4](#) (Q2 2022)
 - Will have 3 people working on BiDi in Q2.
 - Basic navigation events
 - Script evaluate. callFunction depends on deserialization.
 - Provides non-overlapping set of work.
 - Could be impacted with puppeteer priorities.
 - Should we also include sandbox script evaluation? It's arguably easier for us since we have evaluateInSandbox, not evaluateInContent.
 - Do we want to prioritise subscribing to a specific context? Depends on Selenium priorities.
 - Want to defer callFunctionOn? Difference is really in the deserialization of arguments.
- [Henrik] [Testing modules need updates for Peers](#)
 - Moving Maja to peer emeritus
 - Adding Julian as peer for Marionette, Firefox-ui, Remote Protocol
 - Thank you Julian for all the hard work and great reviews since the start of WebDriver BiDi!
 - Adding Henrik as peer for web-platform-tests infrastructure
 - Will send emails to governance and update wiki.
- [Henrik] [Agenda for Puppeteer meeting](#) on January 19th
 - Please add agenda items today so we can add to the public agenda
 - Honza will add something about usage data.
 -
- [jgraham] I will work on improving the actions support in marionette with wheel/touch/etc., since this is required for wpt.
 - Marionette doesn't use actions for sendKeys or clickElement. Could unify and share?
 - Hoping to share more of the implementation with EventUtils.js

Project updates

- General
 - (read only) [Fixed bugs since last meeting](#)
- WebDriver BiDi
 - [Project Status](#)
 - This week: 17 Total; 10 Open (58.82%); 7 Resolved (41.18%)
 - Last week: 12 Total; 8 Open (66.67%); 4 Resolved (33.33%)
 - Implementation
 - [Henrik] Continued on browsingContext.contextCreated
 - Fixed: [Send internal event when window global message handler has been initialized](#)
 - Next: [Don't try to apply session data for modules that don't exist](#)
 - Next: Investigate options to wait long enough to be able to return a valid URL and not just about:blank
 - Want to send event early, but need the URL to be known.
 - [Henrik] [Fixed broken references and links for Remote Protocol documentation](#)
 - [Julian] [Bug 1747222 - Use an unique ID of top-level browsing contexts \(window handles\)](#)
 - Marionette and the same session in BiDi should share handles, but different sessions should have different handles.
 - [Julian] Started with [Bug 1664165 - Make use of a webprogress listener instead of page load events for tracking active navigations](#)
 - Could start moving minor APIs from navigate.js to Navigate.jsm? `refresh`, `navigateTo` & `isLoadEventExpected`. Those should not be impacted by the move to webprogresslistener
 - This is a big bug, and could be split up. Could start with the methods not depending on webprogress.
 - Could just start be replacing the custom logic with webprogress listener.
 - Specification
 -
- Marionette
 - [Henrik] [Allow marionette to connect to a windowless instance of Firefox](#)
 - Fixed: [WebDriver:NewWindow with type "tab" hangs in upstream wpt stability jobs](#)
 - Merge: [waitForInitialNavigationCompleted doesn't recognize uninitialized documents](#)
 - Next: Rebase for above fixes and check for previously failing tests
 - Next: Working with product folks to find right place for emitting the *marionette-startup-requested* notification
 - [Henrik] [Firefox still seems to send Telemetry data with Remote Protocol \(Marionette\) active](#) which was causing crashes similar to the outage recently

- Hoping to get help from chutten to ensure we aren't trying to use telemetry.
 - Might want to change the policy here in the future, but at least for now, we want it totally disabled.
- Geckodriver
 - [jgraham] - Landed the allow-hosts/origins patch

Status Report

Engineering Highlights

Jan 10, 2022

Facilitator: James

Notetaker: Julian

Attendees: Marco, Henrik, Honza, Julian, James

Agenda/Notes

- [Honza] Scheduling meetings
 - Some numbers we have so far ([BiDi PRD](#))
 - Puppeteer: Wednesday, Jan 19, 3pm
 - Agenda
 - WebDriver BiDi in Firefox update
 - Puppeteer priorities, schedule, release plans?
 - Data?
 - Should be simple, no big surprise, we had reg meetings with them. Updates on both sides etc...
 - Provide data to prove that automation is something people are interested in, not just for big companies. Try to get data from 3rd party tooling. We already have some npm/github stats. We also have an MDN survey, but we don't have enough numbers. Should be a topic on the agenda, even if we don't expect much on that topic.
 -
 - Playwright: Wednesday, Jan 26, 5pm
 - Agenda
 - WebDriver BiDi in Firefox update
 - Playwright priorities, schedule, release plans?
 - Fission (removing `fission.autostart` pref)
 - A mutually beneficial plan?
 - Can happen faster than expected by the PW team
 - Opportunity to get more contribution
 - Data?

- Will receive an invite, but won't be in the list, it's normal, been created outside of gcal.
- Haven't had a meeting in a long time, but the agenda should be similar to puppeteer.
- We might want to setup a regular meeting
- Mention Fission, even if Pavel is not concerned. They think we will not remove the pref to disable Fission in the near future.
- If we have topics/questions, it should be added to a separate document.
- Need to define what we are ready to accept from them, in order to help them maintain compatibility for Firefox.

Project updates

- General
 - (read only) [Fixed bugs since last meeting](#)
- WebDriver BiDi
 - [Project Status](#)
 - This week: 12 Total; 8 Open (66.67%); 4 Resolved (33.33%)
 - Last week: 11 Total; 10 Open (90.91%); 1 Resolved (9.09%)
 - Implementation
 - [Henrik] Continued on browsingContext.contextCreated
 - [fixed] [Expose replace bit in "browsing-context-attached" notification](#)
 - Still not clear what to wait for to expose the right URI for the event (right now it still always includes about:blank)
 - [Julian]
 - Landed [Bug 1732958 - Sync vendored puppeteer to v13.0.1](#)
 - Landed [Bug 1723592 - MessageHandler: Modules should explicitly declare their public commands and events](#)
 - The base Module class now exposes `supportsEvent`, `supportsMethod` and a `supportedEvents` getter.
 - In progress [Bug 1747222 - Use an unique ID of top-level browsing contexts \(window handles\)](#)
 - Cannot use browserId directly because it is always 0 for unloaded tabs
 - Specification
 -
- Marionette
 - [Henrik] [WebDriver:NewWindow with type "tab" hangs in upstream wpt stability jobs](#) (use webProgress to detect initial page load when opening a new tab/window)
 - Can't easily retrigger tasks as we would do on TreeHerder.
 -
- GeckoDriver
 - [James] Updated allowed hosts and origins patch

Status Report

- Engineering Highlights

Jan 03, 2022

Facilitator: Julian

Notetaker: Honza

Attendees: Henrik, Marco, Honza, Julian

Agenda/Notes

- [Henrik] [M3](#) starts today
 - 11 bugs / 86 points (not including contingency points yet)
 - Goal is to finish 8 points per week
- [Marco] Changes to M3 milestone tracking
 - Move to full point system:
 - Simple - 1, 2, 3
 - Intermediate - 5, 8, 13
 - Complex - 20
 - Notes:
 - Henrik and Julian will discuss the recommendation tomorrow at 1:1 meeting and come back with a decision
 - The M3 forecast will be based on new performance data collected over 4 weeks.
 - No scope controls during this time period - add/remove as many bugs to the backlog as desired.
- [Julian] Puppeteer tests: should we keep running failing tests in our CI while they are skipped by the puppeteer CI upstream? The discrepancy between what we run and what they run makes updates painful, as we might spot regressions introduced at any point since the last sync. Granted the issue I had with version 13 was different, but it still made the investigation more complex.
 - Notes
 - We should run the same set of tests as done by Puppeteer in their CI
 - A lot of new tests has been added by Puppeteer
 - Henrik worried also about tests which are timing out
 - Julian going to file a bug for this (the discussion can continue in Bugzilla)

Project updates

- General
 - (read only) [Fixed bugs since last meeting](#)
- WebDriver BiDi
 - [Project Status](#)
 - This week: 11 Total; 10 Open (90.91%); 1 Resolved (9.09%)
 - Last week: 11 Total; 10 Open (90.91%); 1 Resolved (9.09%)
 - Implementation
 - [Henrik]
 - [Implement browsingContext.contextCreated event](#)
 - On hold since December 20th due to Marionette work

- (CDP - mentored) [Add support for `urls` to `Network.getCookies\(\)`](#)
 - [Julian]
 - Landed: [Bug 1746595 - Throw unknown command error when calling an unexpected bidi command](#)
 - In review: [Bug 1732958 - Sync vendored puppeteer to v13.0.1](#)
 - The issue on our CI is linked to a "printing to PDF" test, asserting the timeout. Weirdly, it passes on Puppeteer's CI.
 - Specification
 -
- Marionette
 - [Henrik] [Allow marionette to connect to a windowless instance of Firefox](#)
 - First PoC patches are available via Phabricator
 - A couple of dependencies that need to be fixed first
 - [marionette.restart\(\) needs parameter for additional restart flags](#)
 - [Julian] [Bug 1732340 - Support xul:browsers that are not tabs in GeckoDriver's switchToFrame in Chrome context.](#)
- Geckodriver
 - n/a

Status Report

- Engineering Highlights