

Marionette Python tests MSE, adaptive without plugins Switch to lower bitrate stream Splice streams (ads) Stress tests, reveal edge cases Long-running tests Youtube, Netflix, generic YouTube JS API ads Reasonable timeout for complete playback	The broad goal of firefox-media-tests is to check that videos using media source extensions or encrypted media extensions actually play -- under a variety of conditions. For MSE, the “variety of conditions” is especially important because MSE is all about making HTML video and audio elements adaptive and dynamic (without any reliance on plugins). What do we mean by adaptive and dynamic? • If network bandwidth changes or the CPU is working too hard, an MSE-enabled player can switch to a lower bit-rate media stream to avoid playback interruptions; • If it's time to show an ad mid-video, different video streams are spliced together depending on the user's location, say. We want our tests to stress the implementation and reveal troublesome edge cases. An example is playing video for a very long time. • In fact, a few months ago, the media team received helpful feedback from a museum curator who needed a particular YouTube playlist to repeat non-stop for an exhibit, but Firefox always seemed to crash after about 100 hours of playback. Right now, we run our tests only against YouTube and Netflix. Many of the tests interact only with the HTML5 video element using its standard API -- these should pass on any website with a video element that uses mediasource. However, I did have to write tests especially with YouTube's JS API because of how the site serves video ads. Testing videos with ads is valuable because the video-splicing involved is part of MSE's adaptive functionality. What's tricky about ads? If a test is playing a very long video on YouTube and I want to check that the video completes successfully, the test needs to timeout after some reasonable interval, but you have to be careful about determining that reasonable interval because you don't know how many ads will play, whether the ads can be skipped, how long the ads will be, etc.
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