

Web SAMP over HTTPS: Update

Mark Taylor (Bristol)

Apps WG
IVOA Virtual Interop

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Outline

- (Abbreviated) history
- Current status
- Way forward

Spoiler:



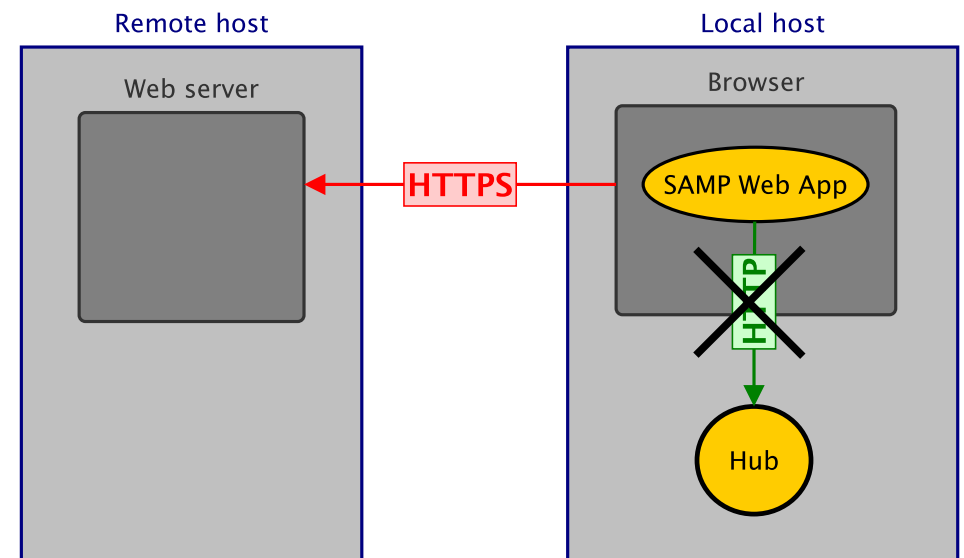
Good News



History

Long story.

- Initial report: [Sydney 2015](#)
- Relevant W3C documents:
 - ▷ **Mixed Content:** [CR-20151008](#), [CR-20160802](#);
see especially definitions of “Mixed Active Content”, “A Priori Authenticated URL”
 - ▷ **Secure Contexts:** [CR-20160915](#), [unpublished draft 2020-02-14](#);
see especially definition of “Potentially Trustworthy URL”
- Relay/Nudge-based proposed workaround: [Cape Town 2016](#)
- Helper-based proposed workaround ADASS 2019: [arXiv:1912.00917](#)
- Discussion on [apps-samp](#) mailing list, Dec 2014–Oct 2020
- Recent summary: [WebSampHttps](#) wiki page



History

Short story:

- 😊 **2009**: SAMP means desktop clients can talk to each other
 - ▷ e.g. select sky position in ds9, Aladin views that region
- 😊 **2012**: SAMP *Web Profile* means SAMP works for browser-based clients too
 - ▷ e.g. archive result page has a button that sends result table to TOPCAT
- 😞 **2014**: It becomes clear Web SAMP doesn't work from HTTPS pages
 - ▷ Because of *[complicated W3C security-related reasons]*
 - ▷ This is a pain, because lots of services are moving to HTTPS
- 😞 **2015–2019**: Investigate complicated and unwieldy schemes to work round restrictions
 - ▷ Proved to work, but probably too ugly to live.
 - ▷ Abandon hope of Web SAMP from HTTPS?
- 😊 **2020**: Web SAMP over HTTPS starts working again!
 - ▷ Relevant W3C standards documents have changed

Current Status

Web SAMP from HTTPS is mostly working out of the box

- Where it works, no extra configuration required; works exactly as from HTTP
- All functionality available, e.g. bi-directional browser↔desktop messaging
- Browser coverage:
 - ☺ Working: recent versions of **Firefox, Chrome/Chromium, Edge**
 - ☹ Not working: **Safari**
 - ▷ OS doesn't seem to be relevant
 - ▷ A few apparently anomalous reports (working Safari? failing Firefox?)
 - ▷ Reports tabulated at [WebSampHttps](#) wiki page (*you can contribute reports!*)

Workaround for other cases?

- [samp-browser-extension](#) developed by Sonia Zorba
 - ▷ Modifies XHRs to allow mixed content for SAMP requests
 - ▷ Requires users to install it in browser
 - ▷ In principle works, but recent tests show not so straightforward:
 - Safari installation process is cumbersome
 - Fragile — what worked a year ago requires adjustments to work now
- ⇒ Not simple enough to make it worthwhile?
see <https://github.com/zonia3000/samp-browser-extension>

What Now?

- Abandon hacky workarounds (Relay/Nudge, helper application)
- More testing required to see where it does/doesn't work?
 - contributions welcome at <https://wiki.ivoa.net/twiki/bin/view/IVOA/WebSampHttps>
- Wait and hope that other browsers (Safari) catch up with standards
- Data providers could just (re)introduce SAMP on HTTPS pages now?
 - ... with a note to e.g. Safari users that it won't work?
 - ... or a link to the samp-browser-extension for users having trouble?
 - Do we need library/boilerplate code for that?
 - Is browser coverage good enough to make that worthwhile?