Let 'localhost' be localhost

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"Users may assume that IPv4 and IPv6 address queries for localhost names will always resolve to the respective IP loopback address."

"Name resolution APIs and libraries SHOULD recognize localhost names as special and SHOULD always return the IP loopback address..."

- SHOULD limits the reliability of 'localhost' for security decisions.
- If not 'localhost', then developers hard-code 127.0.0.1, hindering progress towards IPv6 only.

Over in W3C land…

https://w3c.github.io/webappsec-secure-contexts/ defines "secure contexts".

- Some web platform features are only available in secure contexts.
- Roughly, a frame and all its ancestors must be https, wss, 127.0.0.0/8 or ::1/128.
- Developers want to test secure context features on localhost.
- Same definition is used for mixed content in web applications.

Proposal

https://tools.ietf.org/html/draft-west-let-localhost-be-localhost-02

Changes SHOULDs to MUSTs so that name resolution libraries and DNS servers must return loopback IPs for 'localhost' and '.localhost' names.

In summary

- Removes a need for loopback address literals that would make it harder to kill off IPv4.
- Allows 'localhost' to be used for security decisions (e.g. secure contexts, mixed content).