CESA-2008-009

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Content

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Firefox 2 and WebKit nightly cross-domain image theft

Programs affected: Firefox 2, prior to 2.0.0.18. Firefox 3 never affected. WebKit nightly was affected somewhere between Safari 3 and 4. Fixed: Firefox 2.0.0.18, Firefox 3. Severity: Cross-domain theft of arbitrary images; machine fingerprinting. CVE-2008-5012 MFSA 2008-48

Arbitrary images (authenticated and unauthenticated) can be stolen cross-domain by fooling the browser about the domain of origin and then rendering the image to a canvas and stealing it with the Javascript `getImageData` API.

Fooling the browswer about the domain of origin is accomplished by using "the 302 redirect trick". This involves accessing the image via an URL local to the current (evil) domain. This local URL hosts a redirector which redirects to the remote image we wish to steal.

Interestingly, despite the diverse code base, WebKit had exactly the same issue. No production WebKit browser that I know was ever affected because Safari 3.1 and Chrome pre-1.0 were based off a WebKit without the APIs which read image data (such as `getImageData` and `toDataUrl`).

Demo

You can read the demo code at https://cevans-app.appspot.com/static/ff2stealimgbug.html

Credits

- Georgi Guninski independently reported this privately to Mozilla some time ago. It was silently fixed in Firefox 3 but left unfixed in Firefox 2, hence the independent discovery.
- Michal Zalewski for noting (and demoing) the additional attack vector of enumerating the locally installed applications, which has fingerprinting possibilities.
- Google - this flaw was discovered in Google's time. I'm with Google's Security Team, and we're always recruiting talented security individuals. Mail me.

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