WebSec

IETF 86

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Agenda

- Agenda Bashing, Blue Sheets
- Document status
- Framework Requirements (Hodges)
- Key Pinning
- Session Management
  - Introduction (Yoav)
  - Session-Cont-Prob (Phillip Hallam-Baker)
- Open Mike

Session Management

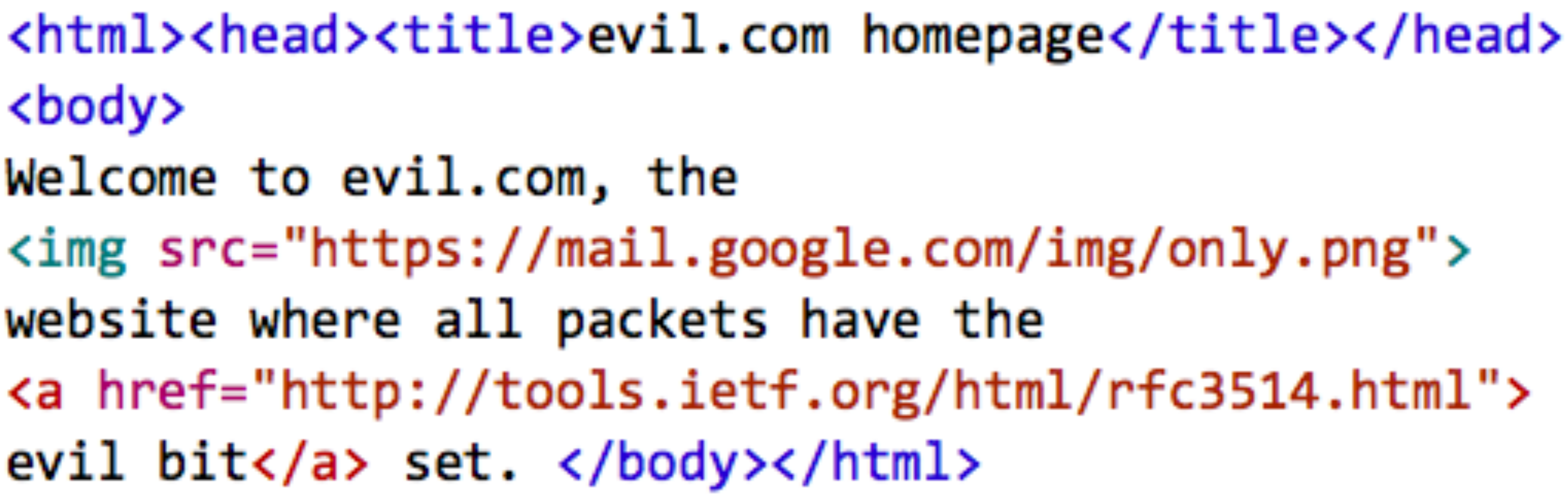
- Issue came up at the httpauth BoF in Atlanta.
- Need to tie together multiple requests from the same client.
  - Give them authorization bound to some authentication from a previous request.
  - Access to stored state.
- Client controls association of requests
- Either side can break a session
  - Not just forget about it.

Session Management

- Today we use session cookies.
- They are bearer tokens, making them attractive targets.
  - BEAST, CRIME, Lucky 13
- Session is fixed from before to after authentication
  - “Weaning the Web off of Session Cookies” describes security issues with cookies.
- Either contain encrypted state, or a key to encrypted state stored on the server.
  - Only one side can “log off”
- The rules were not set for security

Do-Over

- Suppose I get the following HTML page from http://www.evil.com .



```
<html><head><title>evil.com homepage</title></head>
<body>
Welcome to evil.com, the
<img src="https://mail.google.com/img/only.png">
website where all packets have the
<a href="http://tools.ietf.org/html/rfc3514.html">
evil bit</a> set. </body></html>
```

Do-Over

- Rendering the page causes the browser to send a request, controlled by evil.com to Gmail, and that request is authenticated with the user's session cookie for mail.google.com.
- If the user clicks the link, another request goes to tools.ietf.org, also controlled by evil.com, and using the tools cookie.
- These are just examples. There’s Javascript, applets, and other kinds of active content.
- We can never change cookie behavior
- We can change a new mechanism's behavior

Session Management

- We've asked a design team to try to draft a list of requirements for a session management protocol.
- The team included Nicolas Williams, Phillip Hallam-Baker, Yaron Sheffer, and Paul Leach.
- They came up with a requirements document
- They also started working on a solution document, but we'll ignore that for now.

Session-Cont presso goes here

Session Management

- To summarize, what we might get from Session Management is:
  - Session tied to authentication
  - Per-request authentication tied to the session
  - Log-off-ability by both server and client (and user!)
  - Limited re-use of sessions by third party
    - Perhaps with communicable policy
  - Potential to communicate session data and authenticated identity to the user.
  - The chance to create a security-focused mechanism

Session Management

- To be clear, this is not part of our charter. We have seen this presentation as an idea for a future work item. We are trying to see if it's a good fit for WebSec.
- If we can reach rough consensus that it is, then we can ask our AD and the IESG to add this to our charter.
- The plan is:
  - A problem statement document (not sure if must be published)
  - A protocol document
  - A document covering client practices (when should it use the same session, and when not to) – may be combined with protocol.
  - Optionally more documents with more auth binding.

Session Management

- The usual questions:
  - Is this a worthy thing to spend time on?
    - Is this solving a real world problem?
  - Is this group a fitting place?
  - **Can we find people to edit these?**
  - Can we get people to commit to review?
  - Is draft-williams-websec-sess-cont a good starting point?