XMPP Over WebSocket

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Stream Start & End

- Before: RFC 6120 style with <stream:stream> tag to open and </stream:stream> tag to close

- Issue: this caused implementation challenges (e.g., stream start & end did not contain a complete XML "document")

- After: <open/> and <close/> elements in their own namespace

- Note: under this model, every WebSocket message needs to declare all namespaces

Before

C: <stream:stream
    xmlns:stream="http://etherx.jabber.org/streams"
    xmlns="jabber:client"
    to="example.com"
    version="1.0" >

[stanzas & other stream data here]

C: </stream:stream>

After

C: <open xmlns="urn:ietf:params:xml:ns:xmpp-framing"
        to="example.com"
        version="1.0" />

[stanzas & other stream data here]

C: <close xmlns="urn:ietf:params:xml:ns:xmpp-framing"/>

see-other-uri

- Now handled as attribute of <close/> tag…

```
<close
    xmlns="urn:ietf:params:xml:ns:xmpp-framing"
    see-other-uri="wss://otherendpoint.example/
xmpp-bind" />
```

- Not allowed on <open/> tag - the XML schema is wrong & will be fixed in the next version

Discovery

- OPTIONAL to use Web Host Metadata (RFC 6145) & Link Relations (RFC 5988) to discover the WebSocket endpoint, as described in XEP-0156…

```
<XRD xmlns='http://docs.oasis-open.org/ns/xri/xrd-1.0'>
  <Link rel="urn:xmpp:alt-connections:websocket"
        href="wss://web.example.com:443/ws" />
</XRD>
```

Security

- Still true that channel encryption is negotiated at the WebSocket layer, not the XMPP sub-protocol

- Client MUST NOT accept redirection to an endpoint with a lower level of security (e.g., see-other-uri with 'http' or 'ws' scheme rather than 'https' or 'wss')

- Client MAY accept delegation if Web Host Metadata & Web Linking is properly served over HTTPS - this is similar to "POSH-lite" (delegation from service domain to target host)

Implementation Status

- Several already updated in source control but not yet released (Prosody, stanza.io, stophe.js)

- Several in the process of being updated (JSJaC, MongooseIM, Tigase)

- At least one with unknown status at this time (ejabberd & perhaps others)

- If you know of additional implementations, let us know & we'll ping the developers :-)