Recent collaboration between W3C and IETF

Alexey Melnikov <alexey.melnikov@isode.com> (Isode Ltd),

Peter Saint-Andre <stpeter@stpeter.im> (Cisco)

IETF Application Area Directors

Mark Nottingham <mnot@mnot.net> (Yahoo!)

IETF liaison to W3C

W3C TPAC, Lyon

Outline

- Short introduction to IETF
  - Structure
  - Standardization process
  - Decision making process
- How W3C and IETF work together
  - Examples
  - Recently completed IETF work
  - Joint W3C/IETF projects
  - IETF and IANA
- Conclusions

Organizational structure of IETF

- **ISOC** – umbrella organization
- **IAB**
  - architectural guidance for IETF
  - oversees IANA function (defines IANA policies)
  - handles appeals against IESG decisions
- **IESG**
  - Day to day running of IETF
  - Manages IETF **Areas**, creates/closes **WG**s, reviews/approves documents (**RFC**s)
- Different IETF Areas
  - 8 at the moment (Applications, Real-time Applications and Infrastructure (RAI), Security, Transport, Internet, Operations & Management, Routing, General)
  - Each has 2 **Area Directors (ADs),** except for the General Area
  - ADs manage **Working Groups (WG)**
  - 14-30 WGs per Area, each has 1-3 WG Chairs

How IETF standardization works (1 of 2)

- No formal membership in IETF; volunteer effort, fees only for face-to-face meetings
  - Decisions have to be made on mailing lists, not in person
  - But face-to-face meetings are useful for brainstorming, sensing directions of work
- No IPR licensing requirements (only disclosures)
  - IPR disclosure requirements are fairly strict (and very early)
  - IETF community is allowed to consider IPR licenses during decision making process
    - e.g. when choosing between multiple proposals
    - Better technology with a worse IPR can be rejected in favor of a worse technology with better IPR

How IETF standardization works (2 of 2)

- WGs have some discretion about their internal processes / tools used
- Design teams (closed groups) are allowed, but not always used
- IETF produces multiple different types of documents (RFCs)
  - Standards Track (similar to W3C Recommendation Track)
  - Informational (similar to W3C Note)
  - Experimental
  - Historic
  - Not all RFCs are a product of IETF!
    - There are other RFC "streams"

Why IETF works ... (1 of 2)

- IETF mostly focuses on protocols and interoperability on the wire, not APIs and UI. IETF also frequently works on formats.
  - But there are exceptions
- IETF typically attracts a broad spectrum of implementers -- including server developers and those of other protocols -- thereby leading to broader review and adoption
- Historically IETF has been more successful with finishing something invented elsewhere, than with designing something from scratch

Why IETF works ... (2 of 2)

- IETF prefers to select a single proposal among multiples
  - Multiple competing standards approved as RFCs are unusual
  - When there are multiple competing standards, IETF usually regretted it
- "Rough Consensus" and "Running Code"
- Decisions are mostly based upon technical merit
  - No voting! (unless need to select one of the proposals which otherwise are considered equal)
  - decisions can be first appealed to WG Chairs, then the responsible ADs, then IESG, then IAB

... and why sometimes it doesn't

- See the previous 2 slides :-)

IETF is a consumer of W3C standards

- HTML/XHTML
- XML
- XML Schema
- XPath, XQuery, ...
- SVG image format
- ...

W3C is a consumer of IETF standards

- MIME – Internet Media Types, ...
- Language Tags
- vCard
- Internationalized Domain Names (IDNA)
- URI/IRI schemes, URI IANA registry
- SSL/TLS
- ...

Language Tags

- RFC 5646 (Tags for Identifying Languages) and RFC 5645 (Update to the Language Subtag Registry)
  - Published in September 2009 as replacements for RFC 4646 and RFC 4645
  - Add more than 7,500 new primary and extended language subtags
  - Can be used in XML (e.g. xml:lang), HTML and other places
  - <http://www.w3.org/International/articles/language-tags/Overview.en.php>
    - fr-CA (French as used in Canada)
    - sl-IT-nedis (Slovenian as used in Italy, Nadiza dialect)
    - en (English)

URI schemes

- RFC 6068: The 'mailto' URI scheme
- RFC 5870: A Uniform Resource Identifier for Geographic Locations ('geo' URI)
  - geo:45.7264,5.0908,240
- RFC5724: URI Scheme for Global System for Mobile Communications (GSM) Short Message Service (SMS)
  - sms:+447753759732?body=Your%20W3C%20presentation%20is%20great
- "about:" (draft-holsten-about-uri-scheme-04.txt)
  - is being reviewed for publication

IDNA

- "IDNA2008" replaces "IDNA2003" (RFC 3490)...
    - RFC 5890: framework
    - RFC 5891: protocol
    - RFC 5892: classification tables
    - RFC 5893: handling of right-to-Left scripts (Bidi)
    - RFC 5894: rationale
    - RFC 5895: optional character mapping

Other recently published IETF RFCs

- RFC 5785: Defining Well-Known Uniform Resource Identifiers (URIs)
  - robots.txt could have lived under .well-known
- RFC 5854: The Metalink Download Description Format
- RFC 5789: PATCH Method for HTTP
- RFC 5995: Using POST to Add Members to Web Distributed Authoring and Versioning (WebDAV) Collections
- RFC 5987: Character Set and Language Encoding for Hypertext Transfer Protocol (HTTP) Header Field Parameters

Other current IETF activities of interest to W3C

- IETF Precis WG
  - preparation and comparison of internationalized strings for application protocols (SASL, LDAP, XMPP, etc.)
  - this might eventually be used by HTTP
- Revision of URNs specs
  - IETF URNBIS WG is about to be chartered by IESG
  - updates to base spec (RFC 2141) and several key namespace registrations (ISBN, ISSN, bibliography numbers)
- IETF OAuth WG
- Documenting use of long polling, etc.:
  - draft-loreto-http-bidirectional-05: Best Practices for the Use of Long Polling and Streaming in Bidirectional HTTP

Joint projects between W3C and IETF (1 of 2)

- XML Digital Signatures

- Atom Syndication Format (RFC 4287), Atom Publishing Protocol (RFC 5023) and various extensions

- Web Linking registry (RFC 5988!) and extensions
  - e.g. RFC 5829: Link Relation Types for Simple Version Navigation between Web Resources

- IETF Geopriv WG / W3C Geolocation WG

- IETF HTTPBIS WG
  - Revision of HTTP 1.1

Joint projects between W3C and IETF (2 of 2)

- Cookie (IETF HTTPSTATE WG)
  - draft-ietf-httpstate-cookie-17.txt: complete and accurate documentation of how cookies actually work on the web, obsoletes RFC 2109 and RFC 2965
- WebSec
  - Same origin policy and possibly a more generic Web security framework
  - Strict transport security
    - e.g. "only talk to this website using https"
- HYBI
  - WebSocket protocol
  - Not working on APIs (work in W3C)
- IRI
  - Revision to RFC 3987, incorporates LEIRI work from W3C

IETF and role of IANA

- IETF makes extensive use of IANA registries
- IANA only administers the registries, it doesn't define policies
  - IANA does what IETF tells it through published RFCs
- Each registry's definition determines how it runs; RFC5226 gives some common templates
  - Some policies are very permissive: first-come-first-served
  - Some are restrictive, e.g.: "Standards Track RFC"
- Copyright of IANA registries is implicitly licensed ("collection of facts"); explicit license being discussed
- There's work between the IETF and W3C regarding streamlining of IANA process, coordination

Other ongoing projects

- Workshop on Internet Privacy
  - Hosts: W3C, IAB, ISOC and MIT
  - Dates: December 8 and 9, 2010
  - Location: Massachusetts Institute of Technology
  - Topic: "How Can Technology Help to Improve Privacy on the Internet?"
  - submit position papers to privacy@iab.org by November 5
  - http://www.iab.org/about/workshops/privacy/
- Discussion about differing use of MIME types in email and web
- Contact API
  - vCard 4.0 / XML mapping
  - possible future work between IETF, W3C, OMA, Portable Contacts, etc.
- HTTP Streaming

Conclusions (1 of 2)

- Both IETF and W3C do important and relevant work
  - work is complementary
- Many ongoing collaboration projects
  - Some work better than others
- Understanding process/culture differences helps
  - How decisions are made
  - Participation
    - Closed groups versa open groups
  - IPR rules

Conclusions (2 of 2)

- Collaboration can always be improved
  - Continuous and honest dialog between W3C and IETF improves results of collaboration
  - Dialog between W3C and IETF management is important
  - Informal dialog between W3C and IETF engineers is equally as important
  - W3C liaisons to IETF: Philippe Le Hegaret <plh@w3.org> and Thomas Roessler <tlr@w3.org>; IETF liaison to W3C: Mark Nottingham <mnot@mnot.net>