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 **WGs**, reviews/approves documents (**RFCs**)
- **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
    • 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.:
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>