The IETF World of Standardisation
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The “I*” Organisations

- ISOC – Internet Society [http://www.rfceditor.org/overview.html]
- IAB – Internet Architecture Board
- IESG – Internet Engineering Steering Group
- IETF – Internet Engineering Task Force
- IRTF – Internet Research Task Force
- IANA – Internet Assigned Numbers Authority
- RFC Editor
- ICANN – Internet Corporation for assigned names and numbers
The Standards Docs

- RFC != Standard
- Start life as idea
- Go to ietf working group
- If no group, go to AreaDirs (IESG) and ask for one. Requires a charter
- Document idea with I-d – can be procedure, protocol, practice or implementation hint
- WG last call, IESG last call
- Can last between 1 and 21 years!
  - C.f. my own experience ipng->ipv6
- http://www.rfc-editor.org/overview.html
In Practice

• Important topics (e.g. MPLS, VOIP, Signaling, IP on Bluetooth/GPRS/3G) require a lot more effort…
• Modest ideas can still proceed rapidly
• Inertia and workload take their toll.
• Industry or Fora pressure still frowned on…
• …but happens (e.g. Cisco mpls, ETSI megaco😊)
Does it work better than?

- Other groups
  - IEEE - do ethernet/wifi
  - 5Gpp – do cellular phone stuff
  - W3C – do web

- National &International Standards
  - BSI - http://bsol.bsigroup.com/
  - ISO, ITU

- Safety (Dyn IoT DDoS needs CE)?
Other Standards Domains

• Programming Languages
  – C++, Javascript etc – for a

• Platforms
  – Xen.org – cloud, mirage
  – Apache (spark, hadoop)
  – Mozilla

• Can incubate or even fund…
Governments and IETF

- Don’t mix well
- C.f. raven/intercept/calea/IPB
- Also recent “call” logging
- Also failure to understand global nature (despite governments claims to be all for global markets😊)
Operational Internet

• See NANOG
• See RIPE, etc
• See weak anarchy, but strong tendency towards social good – e.g. multiple roots for DNS frowned on, non congestion avoiding TCP frowned on etc etc etc
• Layer 8 Politics
Who does standards work?

• Industry “goers” v. “doers”
• Government agencies
• Researchers (impact)
• Policy Wonks....
What’s in it for participant

• Impact
• Understand broader context
• RL v. Academic
• But beware
  – *Infinite* sink of time/energy/patience
Summary

- Internet standards a transparent process
- Internet operations are largely a free market
- Cost of entry to both standards and market are low
- Model adopted by others (E.g. Cloud)
- Hard work