Quo vadis IETF?
Is the IETF (becoming) ossified?

Ignacio Castro
IETF 115 - mapgr
Measurement and Analysis for Protocols’ Standardisation

Ignacio Castro
IETF 115 - mapgr
Analysing decision making in the IETF

Published work:


Project:

- SODESTREAM: Streamlining Social Decision Making for Improved Internet Standards ([https://sodestream.github.io](https://sodestream.github.io))
The Internet is NOT a conspiracy

We know those responsible
And have the “minutes”
From before it started
One where we know the conspirators
And have the
From before it started

The Internet is NOT a conspiracy

minutes
IETF standardisation process

Draft proposal → Draft adoption → RFC publication → RFC Deployment

*Disclaimer: (slightly) different periods of analysis

10/11/2022
Decreasing number of email participants
Stable number of emails
Increasingly “chatty”
• Graph (email participants)
• Identify Connected Components
Identify the Largest Connected Component (LCC)
Growth of Largest Connected Component

More cohesive IETF?

Less Connected Componentes
• Graph Centrality (Betweenness) ~influence
More influence ----------------> less influence

- Graph (email participants)
- Betweenness ~ influence
- Influence percentiles (+→-)
- Remove participants
Growing relevance of most influential participants

Removing ~1/4 most influential participants reduces Largest Connected Component (LCC) by 90%

More influence ------------------> less influence
• Graph (email participants)
• Betweenness ~ influence
• Influence percentiles (+→-)

More influence --------------> less influence
An influential minority dominates the email discussions

More influence -----------------> less influence
Influential participants increasingly dominate draft creation.

More influence ------------------> less influence
Longer time to gain influence

More influence --- > less influence

Years
- 2000-2004
- 2005-2009
- 2010-2014
- 2015-2019
Raise of (more) influential participants?

More complex discussions?
More areas discussed

Influential participants discuss more areas

More influence ------------> less influence
• Identify topics discussed (LDA)
• Topic entropy ~ topic diversity

More influence ------------------> less influence
Influential participants participate more (evenly) in multiple topics.

More influence -------------------> less influence.
Raise of influential participants

More complex discussions

Harder to publish?
3x increase in time to publish
# drafts pre-RFC publication has more than doubled
More coming!

• Please, help us!
  • Ground-truth: Cross-area review recommender tool
  • General feedback/insights

• RASP RG:
  • Researching Internet Standards Processes Research Group
  • Side meeting: Thurs-10th 3.30pm