

Conversational Dynamics in Internet Governance Communities

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Internet Governance happens in the open

Deliberation processes are publicly archived

- Mailing lists
- Public comments
- Working groups

Outcomes: Policies, Standards, Protocols

Published: ICANN, IETF

These processes **can span years** with **hundreds of messages** each

These messages form conversations -> and conversations have structure



What conversations can reveal about of these processes?

Timing: How does the community respond?

When does discussion concentrate?

Early, middle, or late

Sentiment of replies: How does the community interact?

Do sentiment replies vary across groups?

Do these patterns relate to whether a standard or policy gets published?



The IETF - How it works?

IETF is open and consensus driven

- Anyone can submit an Internet draft
- Drafts are discussed in **mailing lists**
- Drafts are revised through community **feedback** and **working groups**
- Drafts can be **published** as **RFC** if consensus is reached

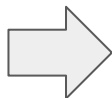
We analyze the IETF's publication process through its conversations.



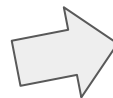
The IETF - Conversations

We group all **emails** related to a **draft** (including different versions) as a conversation

2.5M
Emails
2005-2023



11K
conversations
Related to RFC development



6K
Conversations
Related to Published RFCs



4K
Conversations
Ended in no publication

The IETF - How does the community respond?

Timing: When do messages concentrate in a conversation's lifetime?

Early:

All messages are at the beginning of the conversation

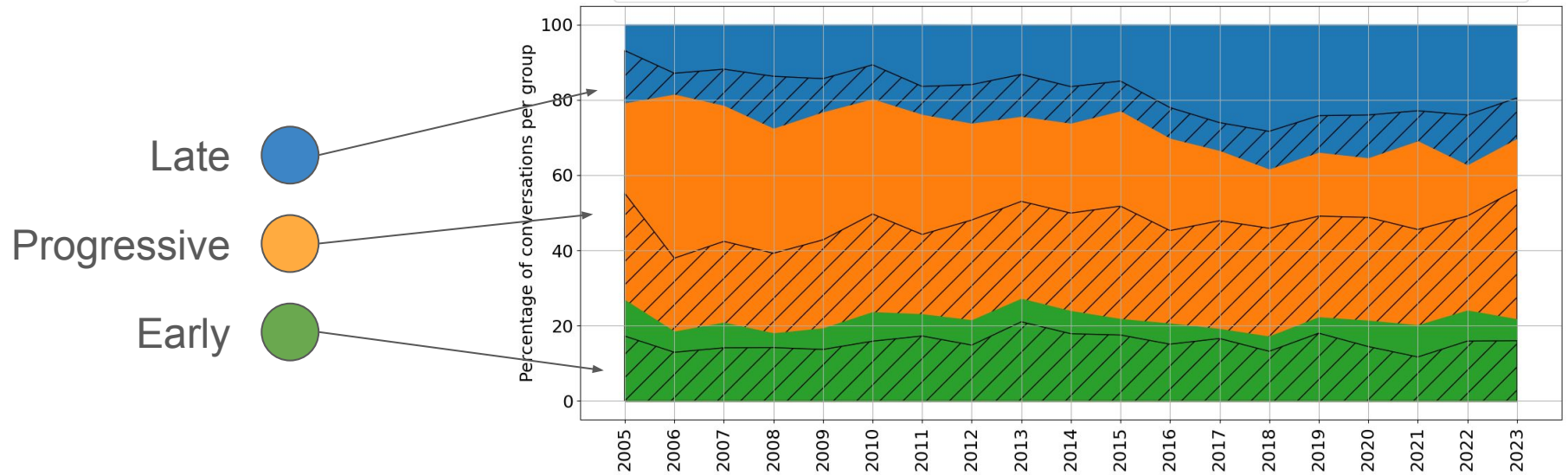
Progressive:

Equal share of messages as time progresses

Late:

All messages are at the last third part of the conversation

IETF - Late conversations are increasing and more likely to end in publication



Late increase: might be due to community engaging in more technically mature drafts

The IETF - How does the community interact?

Sentiment of replies: How does the sentiment evolve through the conversation lifespan?

Flat:

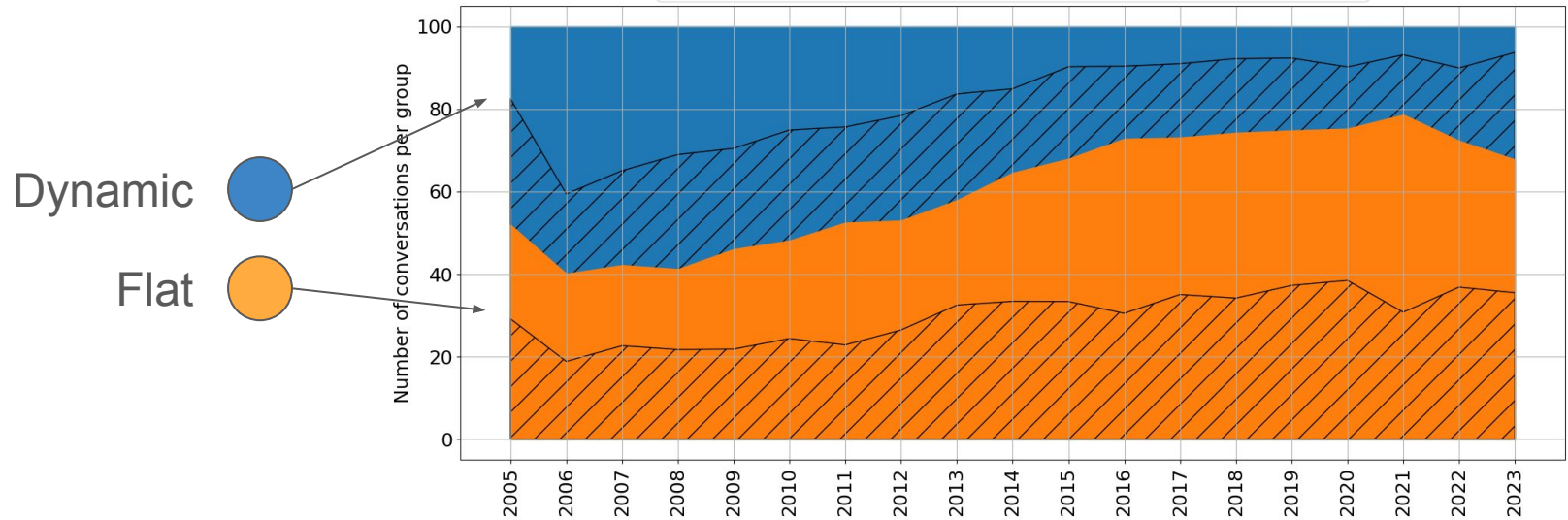
Sentiment does not vary
across the conversation

Dynamic:

Sentiment has high variance
across the conversation

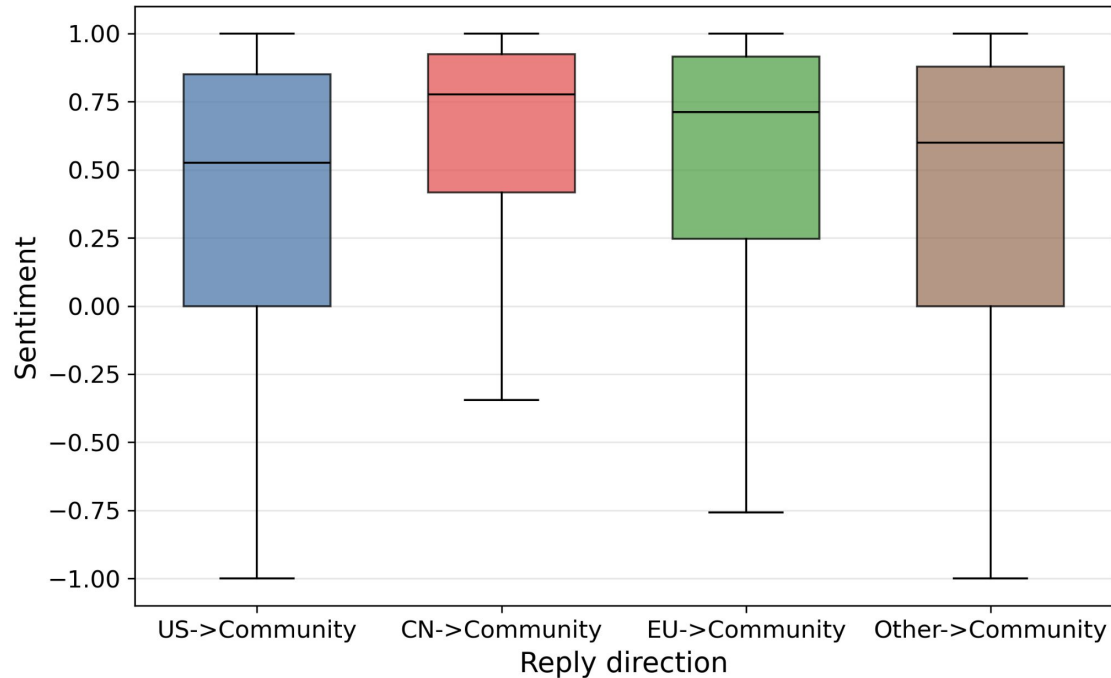
Most conversations leading to RFCs are becoming flat

Most flat conversations have neutral to positive sentiment tone



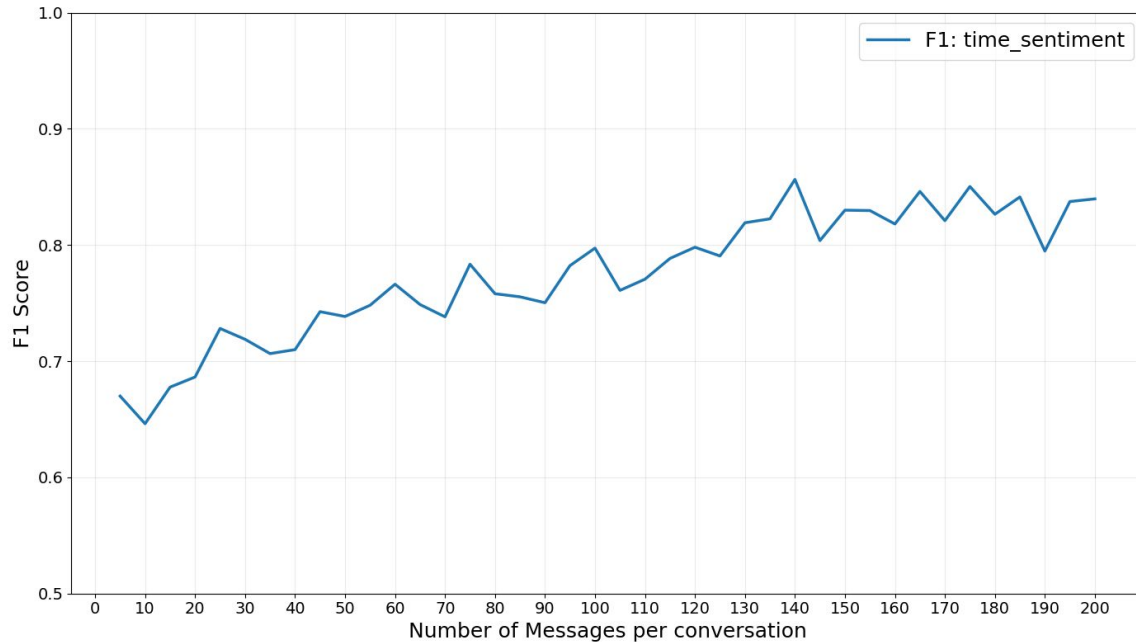
Neutral to Positive tone holds across regional groups

We segmented participants by organizational headquarters — US, CN, EU, Other



Conversational patterns carry predictive signal for publication outcomes

As conversations grow, their temporal and sentiment patterns become increasingly predictive of whether a draft gets published.



IETF Takeaways

- 1.- IETF conversations have recurring temporal patterns that shift over time
- 2.- Reply sentiment has converged toward neutral-to-positive and holds across regional groups
- 3.- These structures carry predictive signal for draft outcomes



From IETF to ICANN

Both produce institutional outputs through archived mailing list deliberation.

- Participant composition
 - IETF: technical stakeholders
 - ICANN: Multistakeholder, technical, governments.
- Deliberation
 - IETF: Rough consensus
 - ICANN Multi-stakeholder negotiation, public comment, board approval
- What drives conversations
 - IETF: Technical complexity
 - ICANN: Multi-stakeholder and policy impact

Different participants, different processes.
ICANN is not a replication, but a distinct case.

ICANN has the data

- Publicly archived mailing lists — GNSO, ccNSO, At-Large, cross-community working groups
- Public comment proceedings with structured stakeholder responses
- Years of traceable deliberation across multiple policy tracks

But

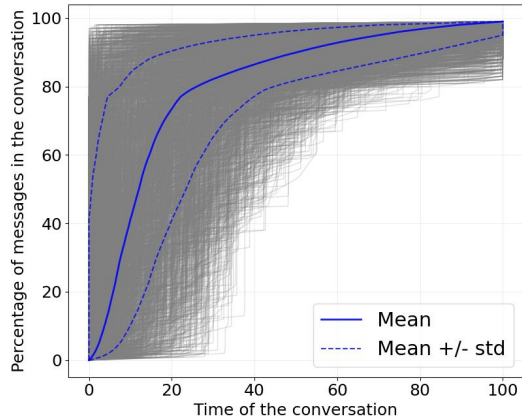
- How do we define a "conversation" in ICANN's multi-stage process?
- Do the same temporal and sentiment patterns emerge — or does multi-stakeholder deliberation produce something different?
- How could understanding these conversational patterns support ICANN's policy work?

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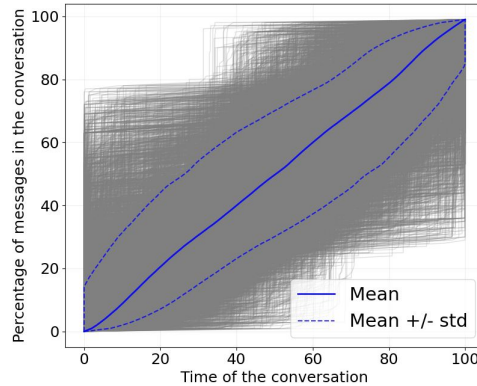


Types of time structures in the IETF

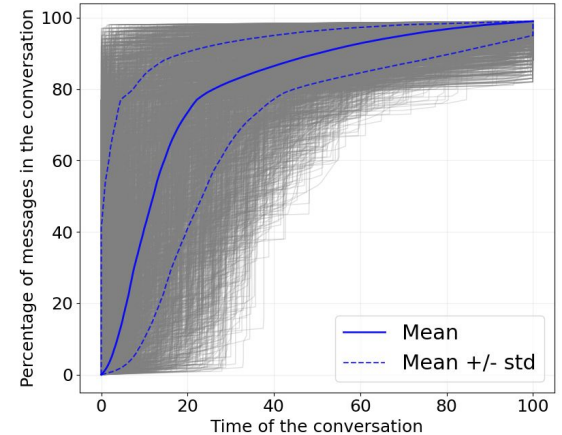
To Find temporal patterns we grouped by Timestamp distribution
3 groups



Early: Most of the conversation at the beginning



Progressive: Equal increase of messages as time progresses

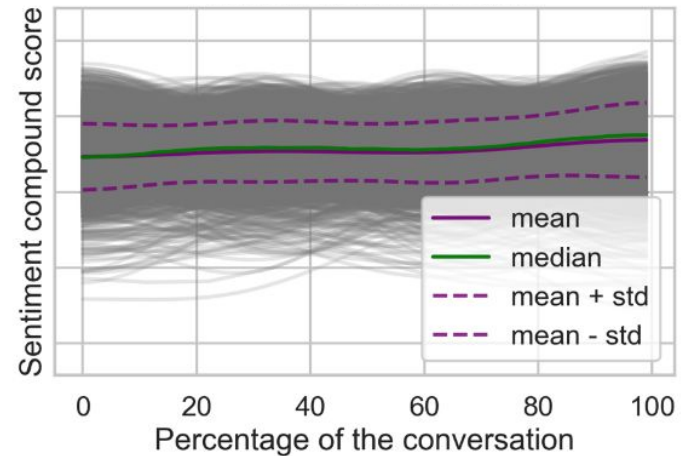
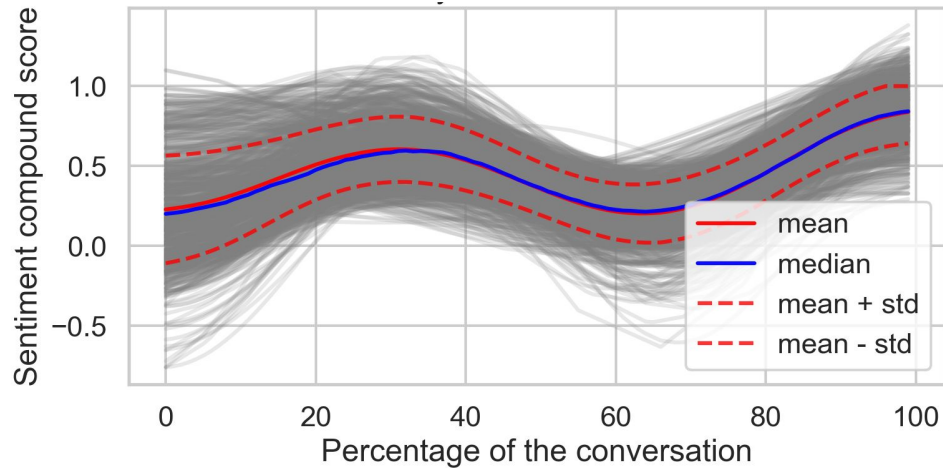


Late: Conversation happens at the last part of the timeline

IETF Sentiment Replies

Flat: Overall maintains the same sentiment reply tone

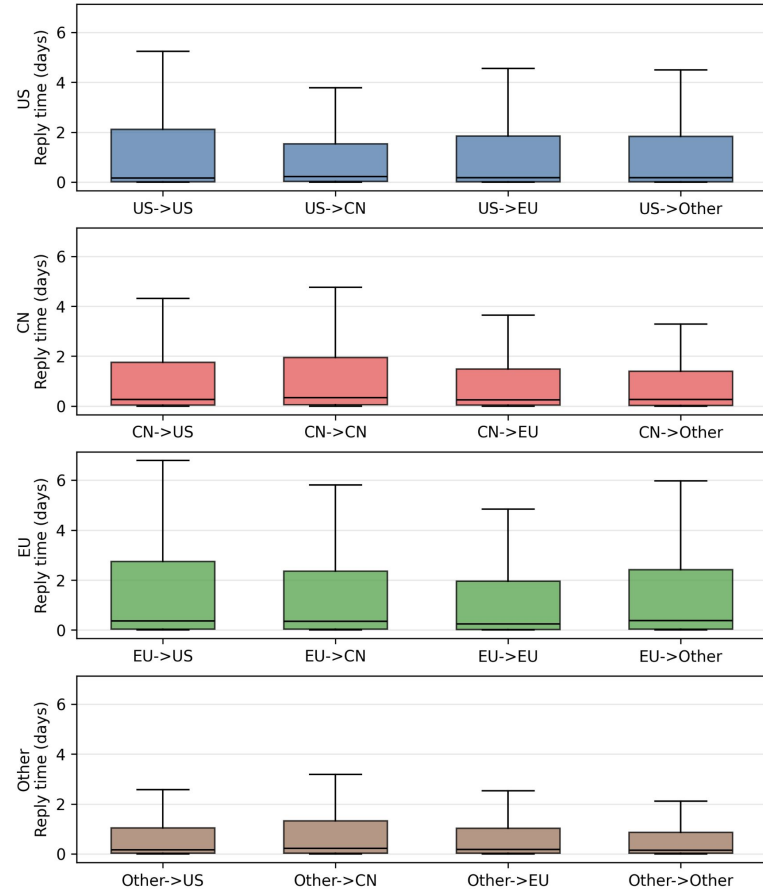
Dynamic: Sentiment trajectories change over time



IETF temporal structures

Time reply differences:

- Coordination and timezones
- No statistical differences



IETF Sentiment replies

We analyzed the sentiment replies between participants:

*No statistical differences are shown

