

# Thinking OF **Internet Addressing**

IETF 112 – HotRFC



Yihao Jia

# Internet Addressing: **Three key Properties**

- **Fixed Address length** through 32/128 bit length
- **Ambiguous Address Semantic** with explicit locator and implicit identifier
- **Limited Address Semantic Support** with mainly prefix-based only semantics

# Internet Addressing: **Potential Problems**

Internet addressing **properties themselves** are potential hindrances for several scenarios

- Communication in Constrained Environments (IoT)
- Communication within Dynamically Changing Topologies
- Communication among Moving Endpoints
- Communication Across Services
- Communication Traffic Steering
- Communication with built-in security
- Communication in Alternative Forwarding Architectures

# Attempts to **Solve Those Problems**

- There are many **Point Extensions** that fill perceived **gaps**
  - Examples: 6LowPAN(Length Extension), HIP/LISP(Identity Extension), CGA(Semantic Extension), ...
- Those extensions come with **issues** themselves
  - Complexity, efficiency, security, limiting semantics, fragility

# Where is this being **Discussed?**

**Currently captured in Two I-D.: [in **IntArea WG**]**

- 1) Internet Addressing: Problem statement  
(<https://datatracker.ietf.org/doc/draft-jia-intarea-scenarios-problems-addressing/>)
- 2) Internet Addressing: Gap analysis  
(<https://datatracker.ietf.org/doc/draft-jia-intarea-internet-addressing-gap-analysis/>)

-> please **review** and **comment** on the **Two Drafts!**

**Discussion in **IntArea Mailing List** :**

- <https://www.ietf.org/mailman/listinfo/int-area>

# Want to **Discuss More @ IETF 112 ?**

**JOIN our discussion** in the IETF 112 Side Meeting:

- **When:** 8<sup>th</sup> of November, 2021 (Mon.) at 18.00-19:00 UTC [**Internet Addressing: problems and gaps**]
- **Where:** info at side meeting wiki (<https://trac.ietf.org/trac/ietf/meeting/wiki/112sidemeetings>)
- **What:** mainly **discussion** among technical experts, kicked off with a brief **introduction**
- **Who:** Open to **EVERYONE**, and a group of **INVITED PANELISTS** to share their experience and opinion on addressing from various angles
  - Dino Farinacci
  - Dirk Kutscher
  - Robert Moskowitz
  - Michael Richardson
  - Laurent Toutain
  - Nirmala Shenoy
  - Vasilieos Giotsas

# THANKS!

Enjoy the IETF 112 Week.