



IP-based Services over ICN in 5G LAN Environments

<https://www.ietf.org/id/draft-trossen-icnrg-ip-icn-5gln-00.txt>

Dirk Trossen, Chonggang Wang, Sebastian Robitzsch,
Martin Reed, Mays Al-Naday, Janne Riihijarvi

IETF-105, ICN RG, July 2019

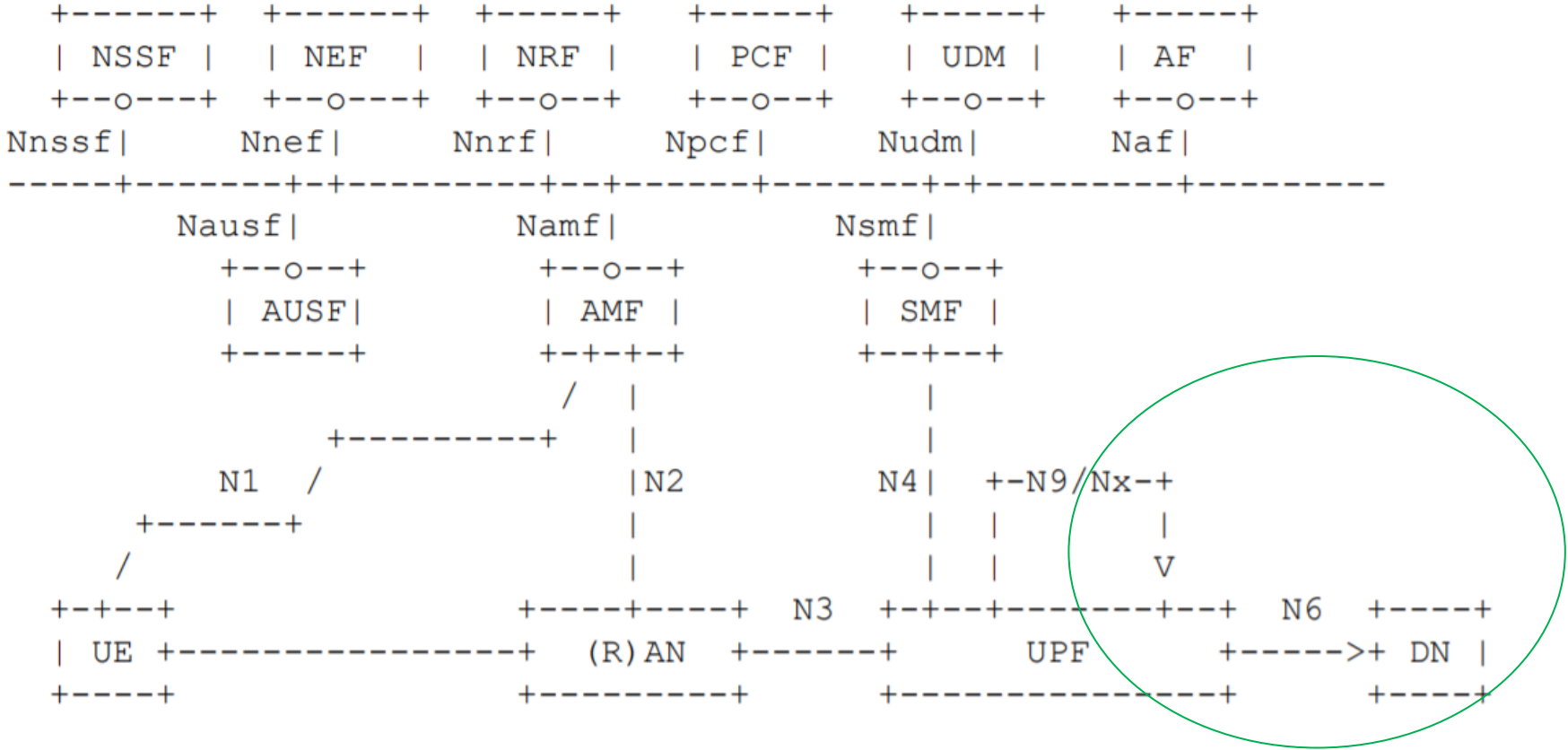
Introduction

- Related WG Draft
 - [draft-ravi-icnrg-5gc-icn-04](#) (Enabling ICN in 3GPP's 5G NextGen Core Architecture), enabling ICN over 5G systems including 5GLAN.
- The present I-D: [draft-trossen-icnrg-ip-icn-5glan-00](#)
 - To enable IP over ICN over 5GLAN.

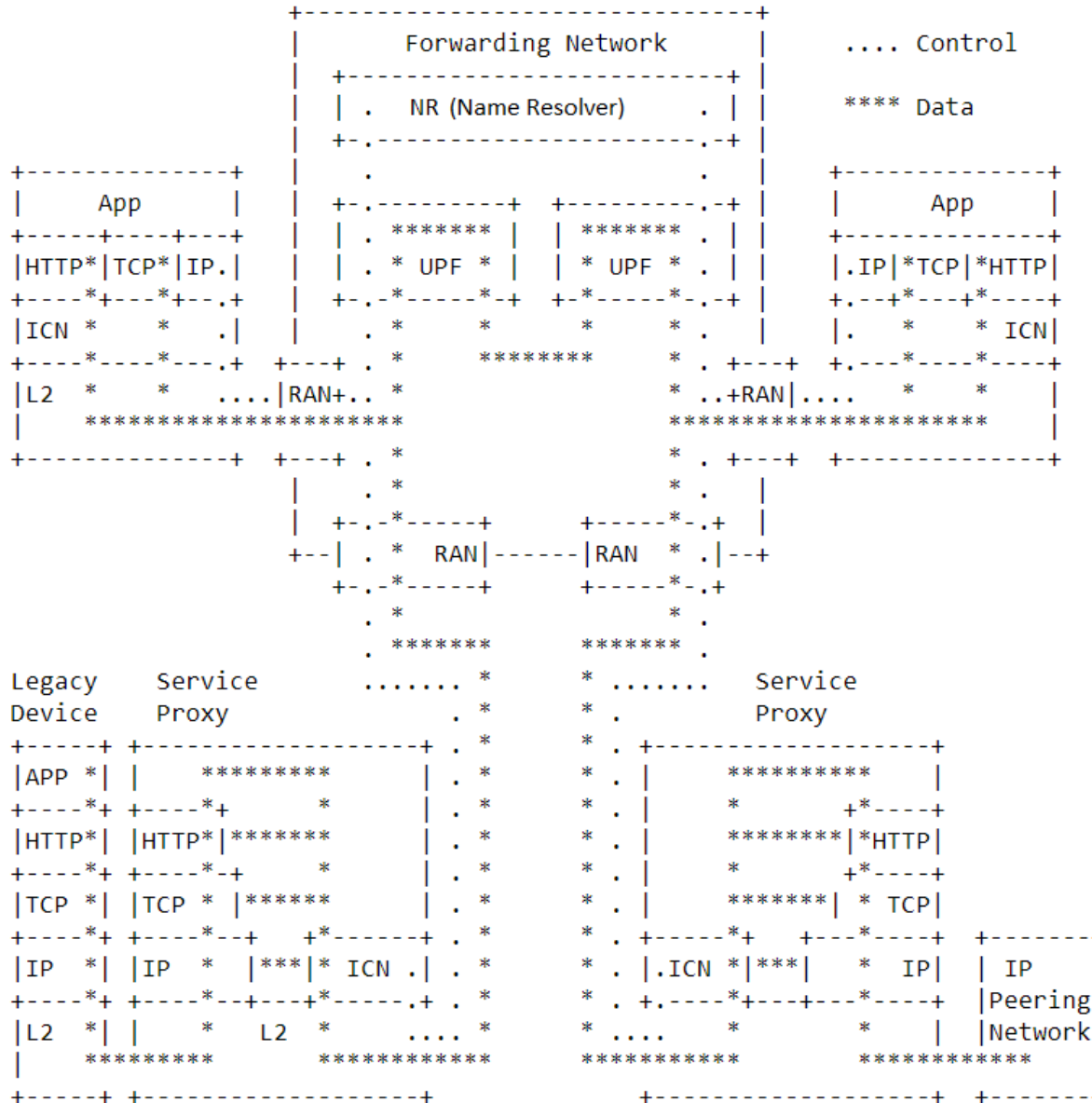
Main Content in Present I-D

- Use Cases
- 5GLAN in 5G Next-Gen Core Network
- IP-based Services over ICN over 5GLAN
 - ICN API to upper layers
 - HTTP over ICN
 - Service Proxy Operations
 - Name Resolver (NR) Operations
 - Dual Stack Device Support
- Deployment Considerations

RECAP: 5G Core Networks with 5GLAN Extensions



IP-based Services over ICN over 5GLAN (1/2)



Assume an end-to-end LAN connectivity be provided by solutions such as 5GLAN

IP-based Services over ICN over 5GLAN (2/2)

- Internet Services are interpreted as a **Named Service Transaction (NST)** to be routed over an ICN layer.
- Protocol stack flattens to **four layers** with Internet services and name-based routing for all IP protocols, with Layer 1 and 2 realizing the end-to-end packet forwarding.
- the ICN layer uses an interaction with the Name Resolver (NR) to **register and discover IP-based services** for determining the suitable end-to-end packet forwarding information.
- Interfaces to legacy devices and IP-based peering networks are preserved through **service proxy devices**, which terminate a traditional Internet protocol stack communication and translate it into a resulting flat protocol transaction.

Next Steps

- Collect feedback from ICNRG
 - Address any comments during/after the IETF 105
- Update Section 5 with more protocol details, e.g.,
 - 5.5 – ICN Flow Management
 - 5.7 – Mobility Handling
- Host a demo for the next IETF 106 (November 2019)