



Internet Services over ICN in 5G LAN Environments

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

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Introduction

- Related WG Draft
 - [Draft-irtf-icnrg-5gc-icn-00](#) (Enabling ICN in 3GPP's 5G NextGen Core Architecture), enabling ICN over 5G systems including 5GLAN.
- The present I-D: [draft-trossen-icnrg-internet-icn-5glan-00](#)
 - To enable Internet Services over ICN over 5GLAN.
 - Replaced “[draft-trossen-icnrg-ip-icn-5glan-00](#)”, which has been presented in IETF 105, Montreal.

Main Content in Present I-D

- Use Cases
- 5GLAN in 5G Next-Gen Core Network
- Internet Services over ICN over 5GLAN
 - ICN API to Upper Layers
 - HTTP over ICN, as example of Internet Service
 - Service Proxy Operations
 - Name Resolver (NR) Operations
 - Dual Stack Device Support
- Deployment Considerations

Primary Changes in Present I-D

- Change #1: Added the following paragraph to “4.2. Realization in Other Transport Networks”
 - *“The proposed traffic engineering extensions to BIER, presented in [I-D.ietf-bier-te-arch], directly align with the SDN-based realization presented in Section 4.1, by proposing the same bitposition per transport link assignment being used, resulting in BIER bitstrings in which a dedicated forwarding path is encoded as a unique bitpattern containing said bitpositions of the chosen forwarding links. The BIER-TE controller plays a similar role as the northbound SDN controller application utilized for the solution in Section 4.1.”*
- Change #2: Replaced “IP Services” with “Internet Services”

Future Updates to Present I-D

- 5.5. Flow Management
 - Describe how Internet transactions are mapped onto single transport relation with joint flow control across all transactions.
 - Describe handling of opportunistic multicast for HTTP.
- 5.7. Mobility Handling
 - Mobility here includes the originating and serving endpoint mobility.
 - The solution will utilize dynamic path updates, either initiated by the moving entity or proactively initiated by the PCE.
 - Result will always lead to direct path forwarding after mobility event, i.e., no anchor-based forwarding.

Future Demo related to Present I-D

- Plan to show demo in IETF 107, Vancouver
 - Demo will showcase the realization of Internet services over a Layer 2 (here SDN) transport network, using the ICN-based routing.
 - Terminal as well as service-proxy based solution will be shown.
 - Use cases will be
 - Quasi-synchronous HTTP-based video viewing
 - Mobile function offloading, based on micro-service approach on Android mobile devices