

Multi-service Tag in ICN

draft-xia-icn-multiservtag-03

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Motivation

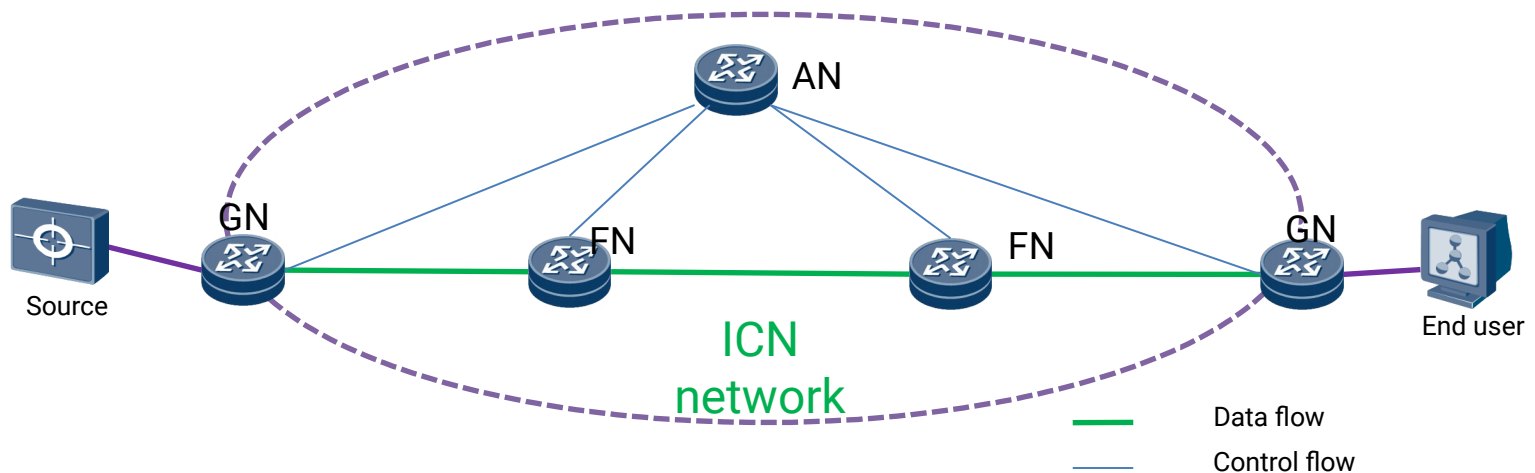
- Service delivery in current network lacks of correlation between content and IP addresses
 - Difficult to do traffic engineering based on the services.
 - The content delivery is not the most optimal.
- ICN is born to solve the above problems by retooling the current protocol stack, so that host can be accessed by name-based data
 - It is content aware.
- To fulfill the requirement of ICN, a scheme that can mapping the service information into forwarding level will be necessary
 - Multi-Service Tag is such a scheme to achieve the above mapping.

What is Multi-Service Tag

- Multi-service tag is a scheme like URI hierarchy naming scheme follows certain principles
 - $xlables = base64(CID + content\ summary + type + random\ number + signature)$
 - It's a string which identifies tags and encrypts the contained information using base64.
 - It can be contained in the packet header so that ICN routers or devices can easily analyze it to have the knowledge of the received data.
 - It can work with the name to achieve specific network treatments, e.g., load balance, priority, etc.

Multi-Service Tag Usage

- Three elements
 - Generating node (GN):
 - ❑ Responsible for generating multi-service tag(s) for specific host or content.
 - ❑ deployed in the edge of ICN network.
 - Assembly node (AN):
 - ❑ Responsible for maintaining the whole map of the multi-service tag in the network. Responsible for tag resolution for the first time.
 - ❑ Specific server in the network
 - Forwarding node (FN):
 - ❑ Analyzing the receiving multi-service tag, and taking specific actions for it
 - ❑ ICN routers in the network



Benefits of Multi-Service Tag

- Provide methods for network to aware content and take different treatments:
 - Easy to network caching.
 - Easy to priority services.
 - Easy to do traffic engineering.

Next Step

- Welcome reviews.
- Seeking for suggestions on the follow-up.