

Semantic Addressing and Routing Impact on Future Networks

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Points to consider

- WHY

-

-

- WHAT

-

-

-

- WHO

-

- WHEN

-

- WHERE

-

-

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Points to consider

- **WHY**
 - We not not care about network addresses
 - We need to abstract “what we care” from what we use to deliver
- **WHAT**
 - We cannot escape infrastructure – and IP is now infrastructure
 - Semantic routing is a (the?) path to isolate that infrastructure detail from the end consumption of the infrastructure products
 - In a mobile world...
- **WHO**
 - The simplest answer: infrastructure providers/service providers
- **WHEN**
 - Legacy, legacy, legacy, legacy
- **WHERE**
 - Do we want to have a routed infrastructure?
 - SDN, C-RAN, MEC

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Semantic solutions need to link
with service (what is this) delivery

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Semantic solutions need to
intrinsically support mobility

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Only cost-efficient solutions will survive. Only extremely cost-efficient solutions will be widespread

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Solve the previous one first!
Or disrupt the global network into
multiple networks

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We can have a “control interface”
(broker, orchestrator, etc...) for semantic translation(s)

Semantic and future networks

• WHY

- Semantic approaches need to provide optimized solutions for different types of services, including the inherent mobility requirements for many of them

• WHAT

- We cannot escape infrastructure – and IP is now infrastructure
- Focused solutions may be successful, but will fail to transform the network. Only cost-efficient solutions, and in particular solutions that will simplify OPEX for multiple types of services will be widespread.
- In the long term, semantic routing is a (the?) path to isolate that infrastructure detail from the end consumption of the Infrastructure provider

• WHO

- The simplest answer: infrastructure providers/service providers

• WHEN

- Transition trends towards centralized environments, with the ability to provide sliced views of networks (effectively different networks),

• WHEN

- may allow the appearance of a new type of abstraction, where routing loses its dominance, and service interfacing may be semantically related
- Do we still need a routing protocol?
- SDN is a good example



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