An Autonomic Control Plane

draft-ietf-anima-autonomic-control-plane-01.txt

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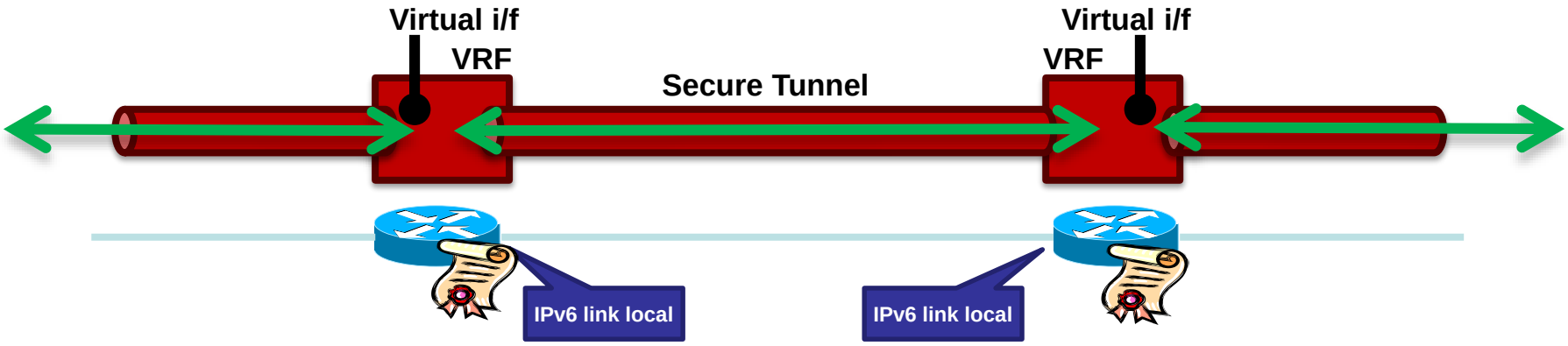
Autonomic Control Plane – Self-Managing Overlay Network



- Autonomic functions use ACP for their interactions
- Can leverage for robust OAM connectivity
- Fully automatic set-up and operation
  - Not configurable
  - Automatic set-up of addressing, routing, discovery, etc.

Summary

- **At IETF93, accepted as WG document**
- **Main changes:**
  - **Use adjacency table as starting point (covered in reference model draft discussion)**
  - **New: section on work-arounds for non-autonomic nodes**
  - **Focus now on virtually separated ACP. (moved the ACP without VRFs into an appendix; to be removed in next version)**
  - **Addressing discussion moved to draft-behringer-anima-autonomic-addressing (may merge in later again, to be decided)**
  - **New appendix explaining routing protocol choice**
- **Main work items now:**
  - **Negotiation protocol (GRASP based)**
  - **Channel type (need IANA registration)**

Preconditions to establish the ACP

- **An autonomic node can be a router, switch, controller, NMS host, or any other IP device. We assume an autonomic node has:**
  - **A globally unique domain certificate draft-ietf-anima-bootstrapping-keyinfra**
  - **An adjacency table draft-behringer-anima-reference-model**

Candidate ACP Neighbor Selection

- **Default: Any node in the same domain is a candidate**
- **Intent can change this behaviour:**
  - **Form ACP between sub-domains**
    - **"example.com“**
    - **"access.example.com“**
    - **"core.example.com" and**
    - **"city.core.example.com“**
  - **Form ACP between different domains**
    - **"example1.com“**
    - **"example2.com“**
  - **Many other options...**
- **Note: Trust infrastructure must allow this.**

Currently out of scope

For each candidate: Capability Negotiation and ACP Establishment

- Must allow future tunnel types, capabilities.
- Based on GRASP
- Protocol details in section 7 (tbc)
- Must be authenticated
- Parameter defined in section 8
- Intent may influence behaviour
  - Ex: “in this network, only allow ACP type x”
- Once capabilities are exchanged, authenticate and establish tunnel.

Next Steps

- **Structure is stable**
- **Need a solid review, in the context of the other drafts: Does this all fit together?**
- **Still work required for some sections (protocol, etc)**

- **Open issues?**
- **Concerns?**