

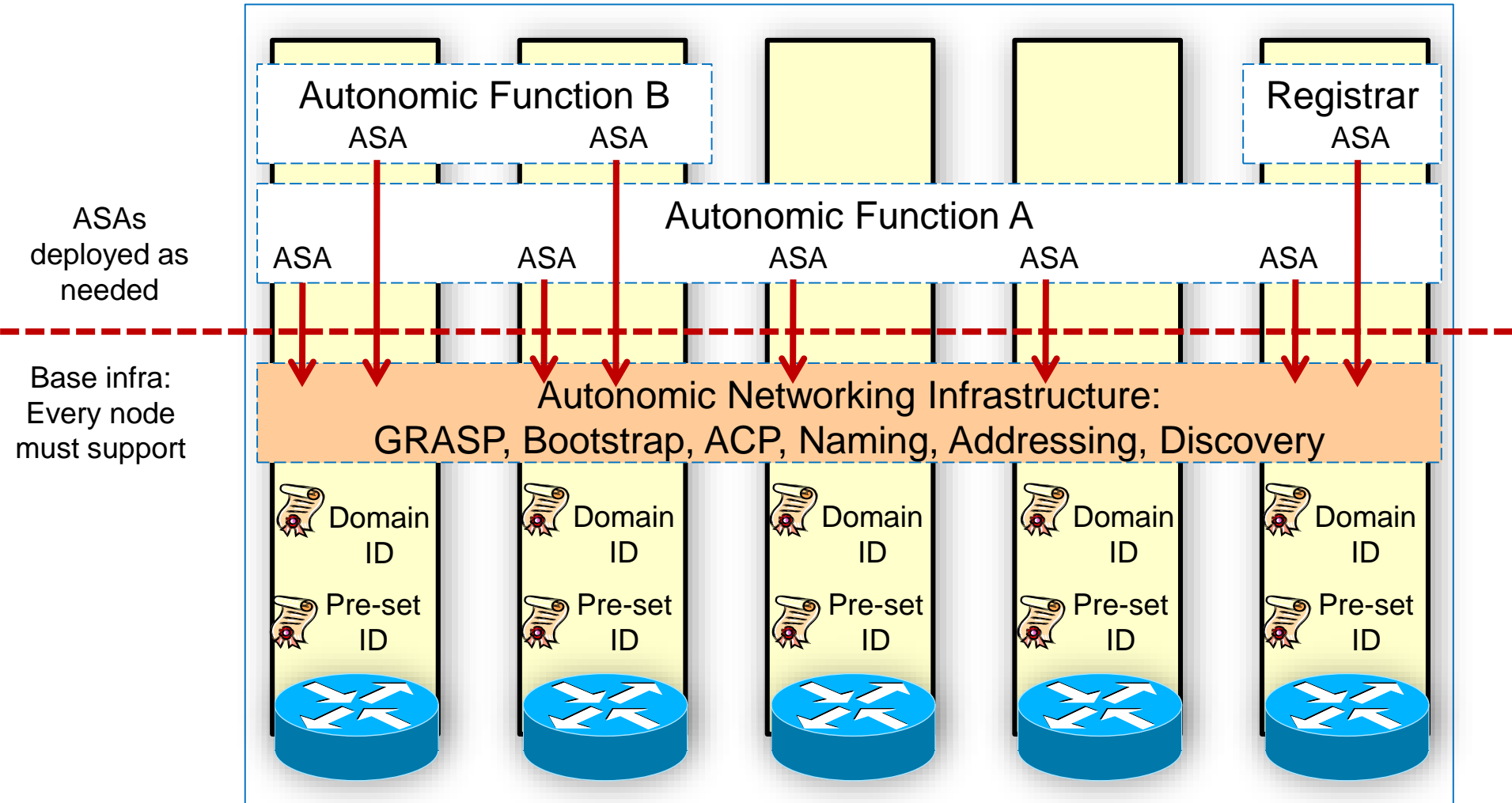
# **A Reference Model for Autonomic Networking**

**draft-behringer-anima-reference-model-04.txt**

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# Reference Model – High Level View



Network with autonomic functions

# Summary

- **Main changes:**
  - Took out “constrained nodes” section for now.
  - Addressing: Focus on requirements here. The proposed scheme is now in draft-behringer-anima-autonomic-addressing
  - **New section: “Functional overview”**
  - **Key concept: “Adjacency table”**
  - Moved most on control loops out (out of scope right now)
  - Moved most of API out (out of scope right now)
- **Work required in many sections**
- **But document structure is stable.**
- **Next step: Accept as WG document?**

# Adjacency Table

- **Information about adjacent nodes**
  - “Note down what you see” – no judgement yet!
- **Used to control autonomic processes, such as constructing the ACP, bootstrapping, etc.**

Node-ID	i/f	Link address	ACP address	Domain	Certificate	Validity	Trust
<UDI-1>	Eth0	FE80:...	FD...	Example.com	<cert-info>	valid	Full (In domain)
<UDI-2>	Eth1	FE80:...	-	Example1.com	<cert-info>	valid	No
<UDI-3>	-	2000:...	FD...	Example.com	<cert-info>	Valid	Full (in domain)
<UDI-4>	Eth2	FE80:...	-	-	-	-	-

# Feeding the Adjacency Table

AN discovery  
(local)

draft-ietf-anima-grasp



AN discovery  
(cloud redirect)



Non-autonomic inputs:

- Configured adjacencies
- DHCP options for AN
- DNS based

...  
draft-ietf-anima-bootstrapping-keyinfra-00  
section-5.3 or  
Reference model ??



Node-ID	i/f	Link address	ACP address	Domain	Certificate	Validity	Trust
<UDI-1>	Eth0	FE80:...	FD...	Example.com	<cert-info>	valid	Full (In domain)
<UDI-2>	Eth1	FE80:...	-	Example1.com	<cert-info>	valid	No
<UDI-3>	-	2000:...	FD...	Example.com	<cert-info>	Valid	Full (in domain)
<UDI-4>	Eth2	FE80:...	-	-	-	-	-

# Using the Adjacency Table

Node-ID	i/f	Link address	ACP address	Domain	Certificate	Validity	Trust
<UDI-1>	Eth0	FE80:...	FD...	Example.com	<cert-info>	valid	Full (In domain)
<UDI-2>	Eth1	FE80:...	-	Example1.com	<cert-info>	valid	No
<UDI-3>	-	2000:...	FD...	Example.com	<cert-info>	Valid	Full (in domain)
<UDI-4>	Eth2	FE80:...	-	-	-	-	-

↓ draft-ietf-anima-bootstrapping-keyinfra-00 section-3.2

Node has no domain  
And I have domain  
→ Be a proxy to bootstrap that node

↓ draft-ietf-anima-bootstrapping-keyinfra-00 section-3.1

Node has domain  
And I don't have domain  
→ I bootstrap  
↓ If response = "redirect"  
Enter the redirect target into adjacency table; use this node to bootstrap.

↓ draft-ietf-anima-autonomic-control-plane Section 5.1

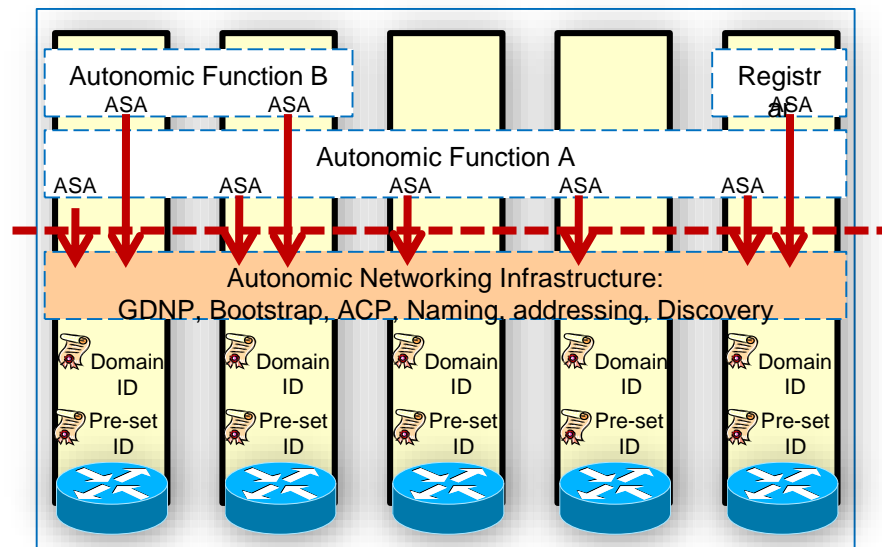
Node has same domain  
→ Build ACP  
→ Add ACP parameters to table  
↓ ACP based functions, e.g, Intent distribution, negotiation, Synchronisation, etc.

↓ Outside scope for now.

Intent driven behaviour (tbd)

# Summary

- Structure is solid
- Content still needs work
- Adoption as WG document?



Network with autonomic functions