

nvo3 architecture report

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nvo3: Where are we going?

- Currently at principles stage
 - Framework, Requirements drafts
- Goal: Network virtualization solutions
 - Protocols that pass traffic
 - Control, OAM and other related protocols
- Reality: Solution approach diversity
 - Next slide ...

Solution Categories (simplified)

		Data Encapsulation (NVE)	
		no MPLS (IP-based)	MPLS-based
Network Service	L2 (Ethernet)	Yes (1)	Yes (2)
	L3 (IP)	??? (4)	Yes (3)

[MPLS/GRE/IP is an MPLS encapsulation, ditto MPLS-in-UDP]

1. IP encap + L2 service: VXLAN, NVGRE, etc.
2. MPLS encap + L2 service: L2VPN
3. MPLS encap + L3 service: L3VPN
4. IP encap + L3 service: Not sighted in nvo3 ... yet?

Want commonality within & across categories (nvo3 = one WG)

[All categories are in scope for nvo3, this isn't about picking one]

Commonality

- Framework draft: Good start
- But: We don't understand everything, yet.
- Living document is desirable
 - Capture solution-independent decisions
 - Support gap analysis and applicability statements
 - More functional detail than is in framework draft

Living Document: Possible Content

- Functional components, protocols and interactions
 - Components and protocols – what do they do?
 - What can vs. can't be mixed/matched?
 - Based on framework draft's components
- Design decisions
 - The WG has decided that “X” works this way (or “X” and “Y” interact in this fashion) because ...
- Major structure and functionality alternatives
 - Structure example: Embedded vs. external NVE
 - Functionality example: L2 vs. L3 service

Proposed next steps

- Architecture discussion on list:
 - Focused topics will be teed up for discussion
- Q: When is a topic “architectural”?
 - A: When it impacts multiple solution categories
- Q: What will architecture do with each topic?
 - A: Compare/contrast alternative structures
 - Decide on what nvo3 will support (preferably one)
- **List Discussion**: What topics need attention?
 - Strawman list of topics on next slide

LIST: Topics that May Need Attention

- Data Plane
 - Setup/discovery
 - Data plane vs. control plane learning
- Control Plane
 - Push vs. Pull
 - Centralized vs. Distributed vs. mixture
 - Setup/discovery
- Management Plane