

# Virtualized Overlay Network Multiple Encapsulation Interconnection

<https://tools.ietf.org/html/draft-ao-nvo3-multi-encap-interconnect-00>

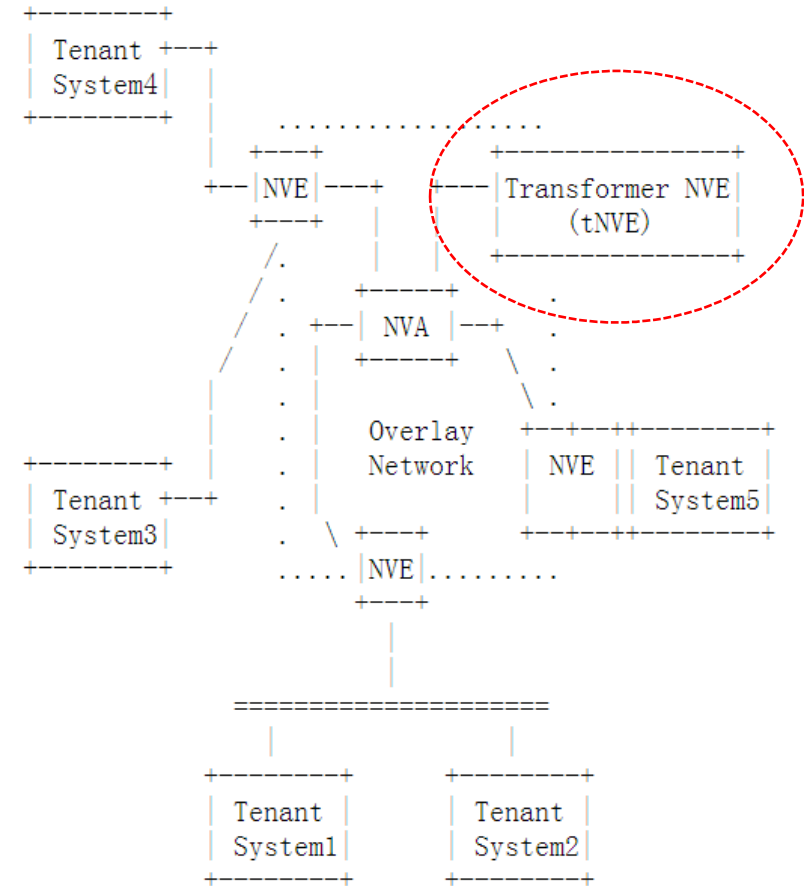
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# Background

- We have many overlay technologies
  - VXLAN-GPE
  - GENEVE
  - NVGRE
  - .....
- Different vendor may use different encapsulations
- But
  - for virtual network, all the hosts that connect to the same VN and want to communicate with each other are required to have the same data plane encapsulation.

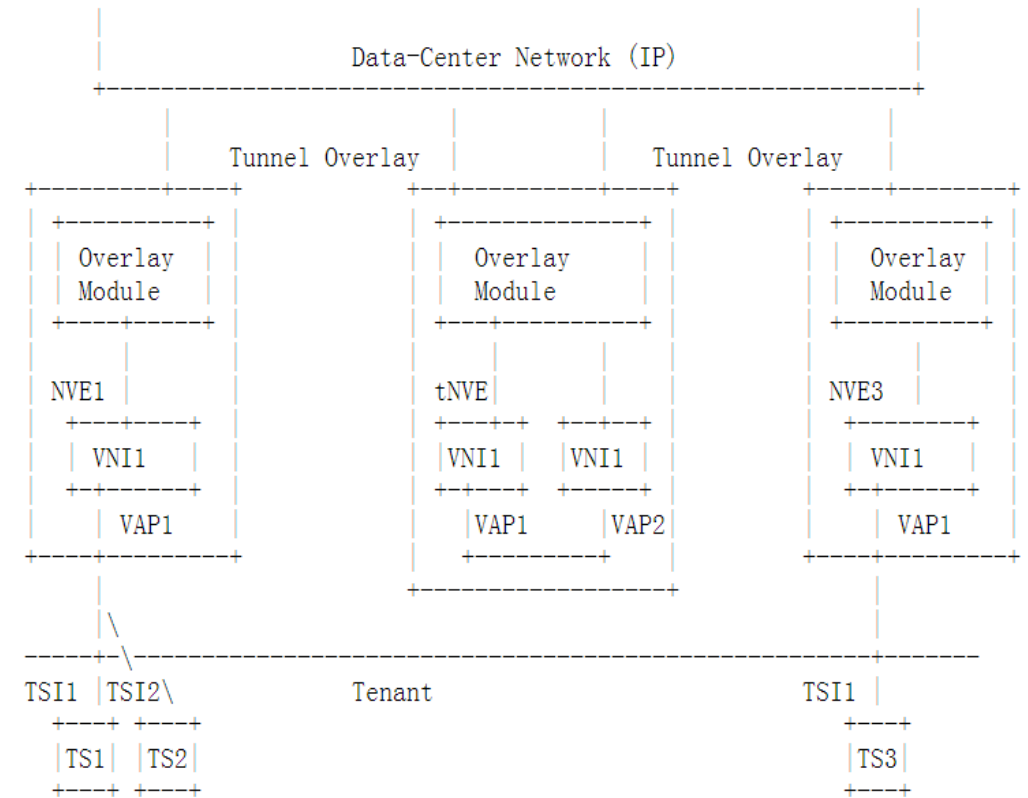
# Architecture supporting multi-encap interconnect

- A new component is introduced
  - Transformer Gateway: Transformer NVE(tNVE)
  - Provide a “bridge” function for the two NVEs that may not share the same encapsulations but want to communicate each other.



# tNVE reference model

- NVE1 and NVE3 using different encapsulations want to communicate
- tNVE is adaptive to the encapsulations on NVE1 and NVE3. It takes the role of interconnection between NVE1 and NVE3.
- tNVE de-encapsulates the packets from NVE1, and then encapsulates the packets to NVE3, and vice versa.
- There is no need for NVE1 and NVE3 to detect the difference of their data plane.



# Control messages required

- tNVE to NVA
  - Encapsulations the tNVE support
- NVE to NVA
  - Address mapping between the NVE and its attached TSs
  - Encapsulation tunnel the NVE support
  - Mandate metadata(optional)
- NVA to NVE
  - Address mapping information between the remote NVE and TS

# Next Steps

- Comments, questions always welcome and greatly appreciated
- Update the draft