

# **Elasticity VNF (Elastic VNF)**

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[draft-zu-nfvrg-elasticity-vnf-01](#)

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# Motivations

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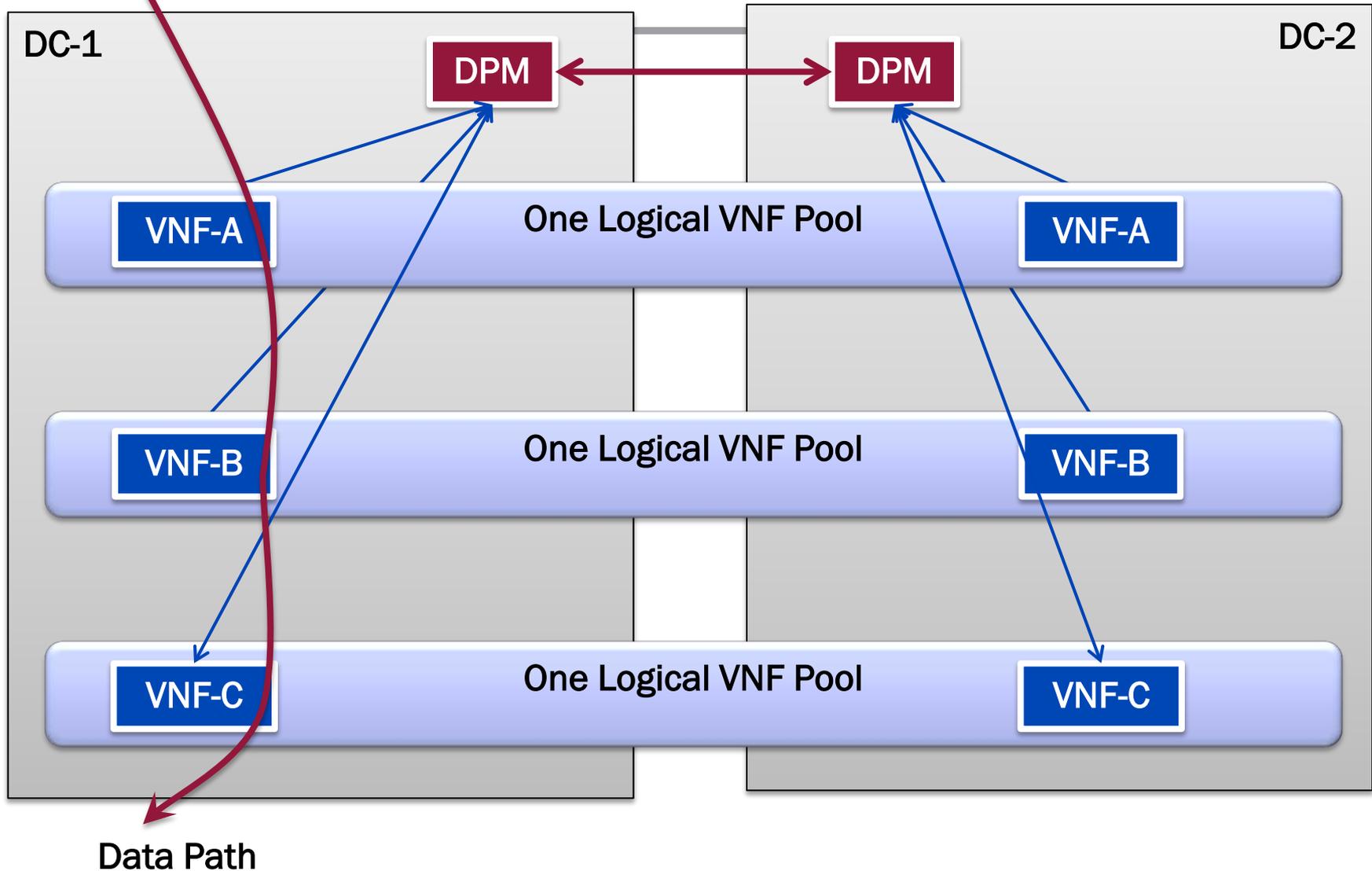
- Network Function Virtualization allows **scale up/down in/out**
- Distributed Cloud == Multiple Network Function Virtualization Points of Presence (NFVI – PoPs)
- VNF scale up/down
  - Through restart of the VNF
- VNF scale out/in
  - Small VMs
  - Grouped as pool of VNF functions

# Assumptions

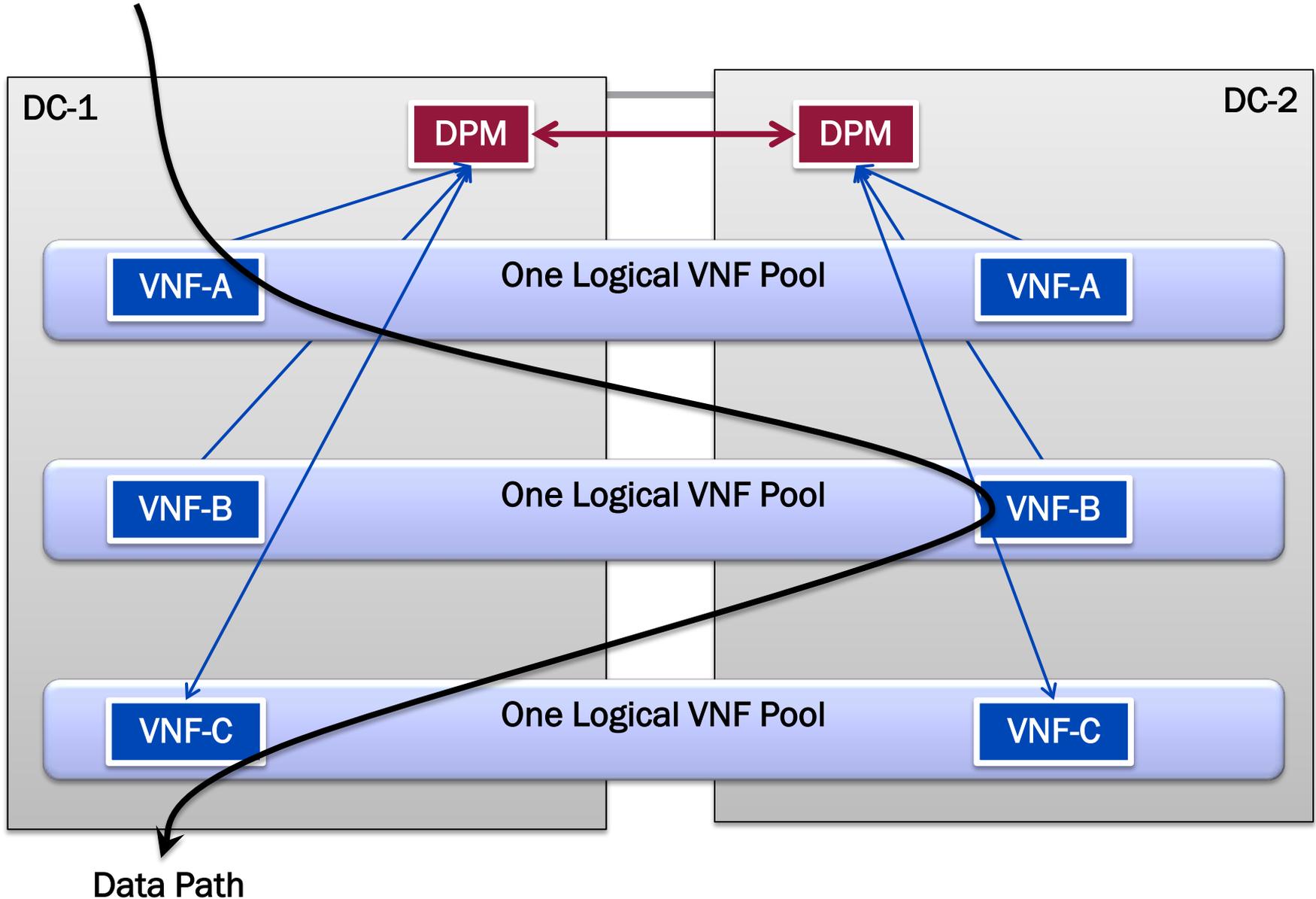
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- VNFs are part of a VNF Forwarding Graph (VNF-FG)
  - Multiple VNFs
  - End-to-end service guarantees
- Multiple NFVI-PoP
  - High availability

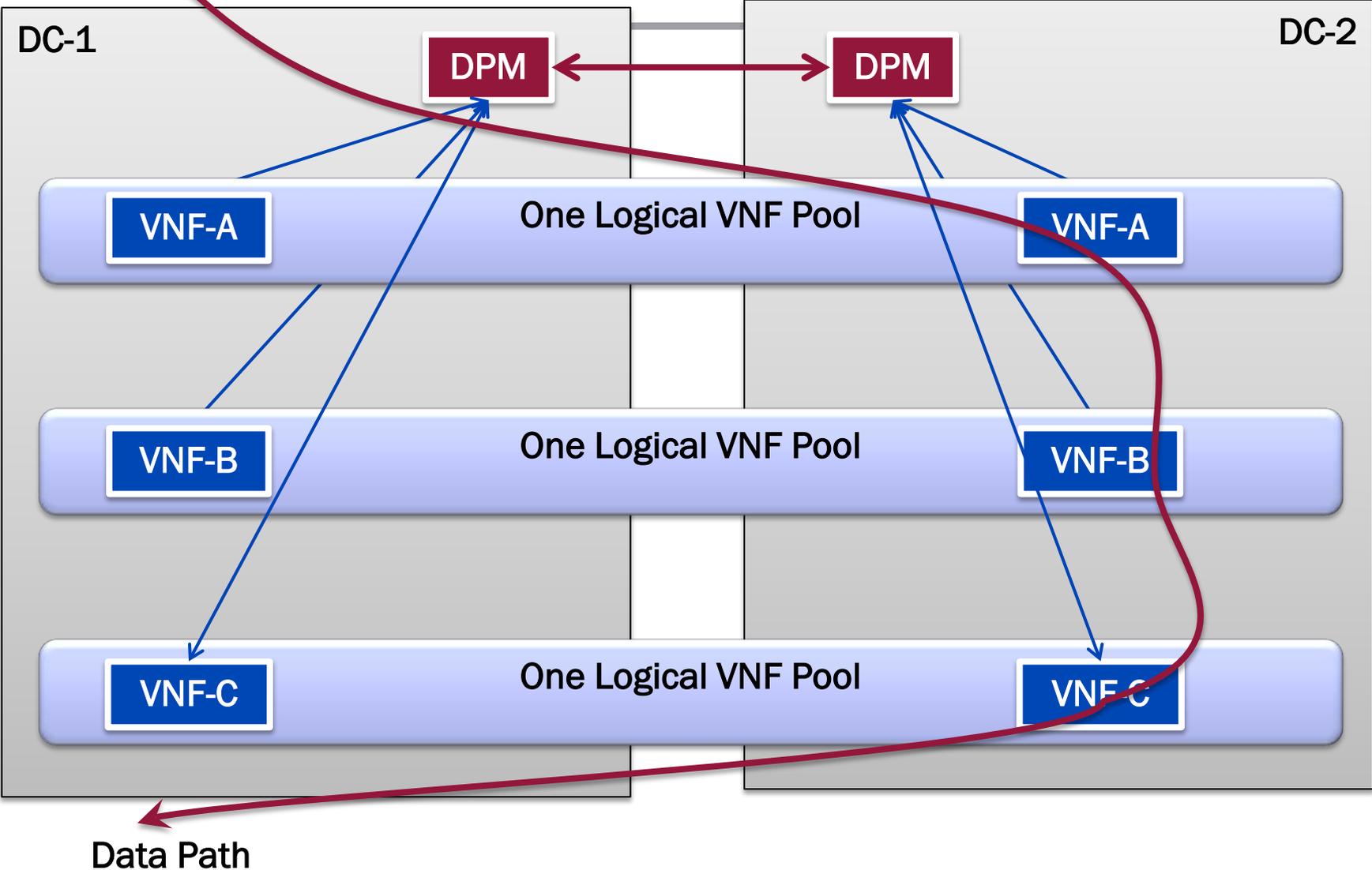
# Predictable performance



# Predictable performance



# Predictable performance



# Problem statement

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- When scaling a VNF, it is not scaled in relation to compute and storage PoPs
  - But need to be grouped together with other VNFs for auto-scaling
- **Network and cloud resources need mutual considerations**  
(see [draft-unify-nfvrg-challenges-01](#))