MANET Internetworking

IETF 122 MANET Session – March 18, 2025

https://datatracker.ietf.org/doc/draft-templin-6man-omni3

https://datatracker.ietf.org/doc/draft-templin-6man-aero3

https://datatracker.ietf.org/doc/draft-templin-6man-mla

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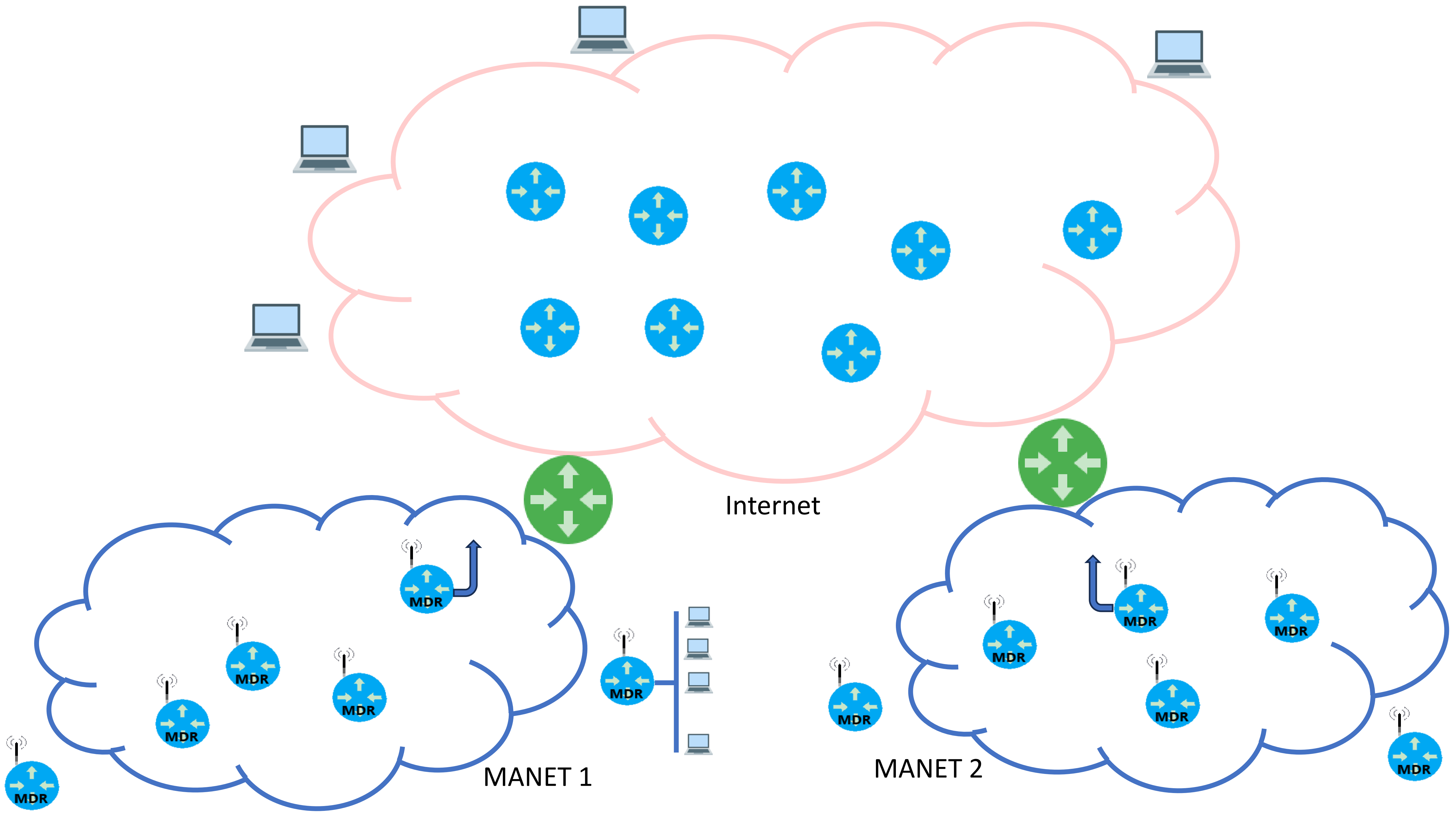
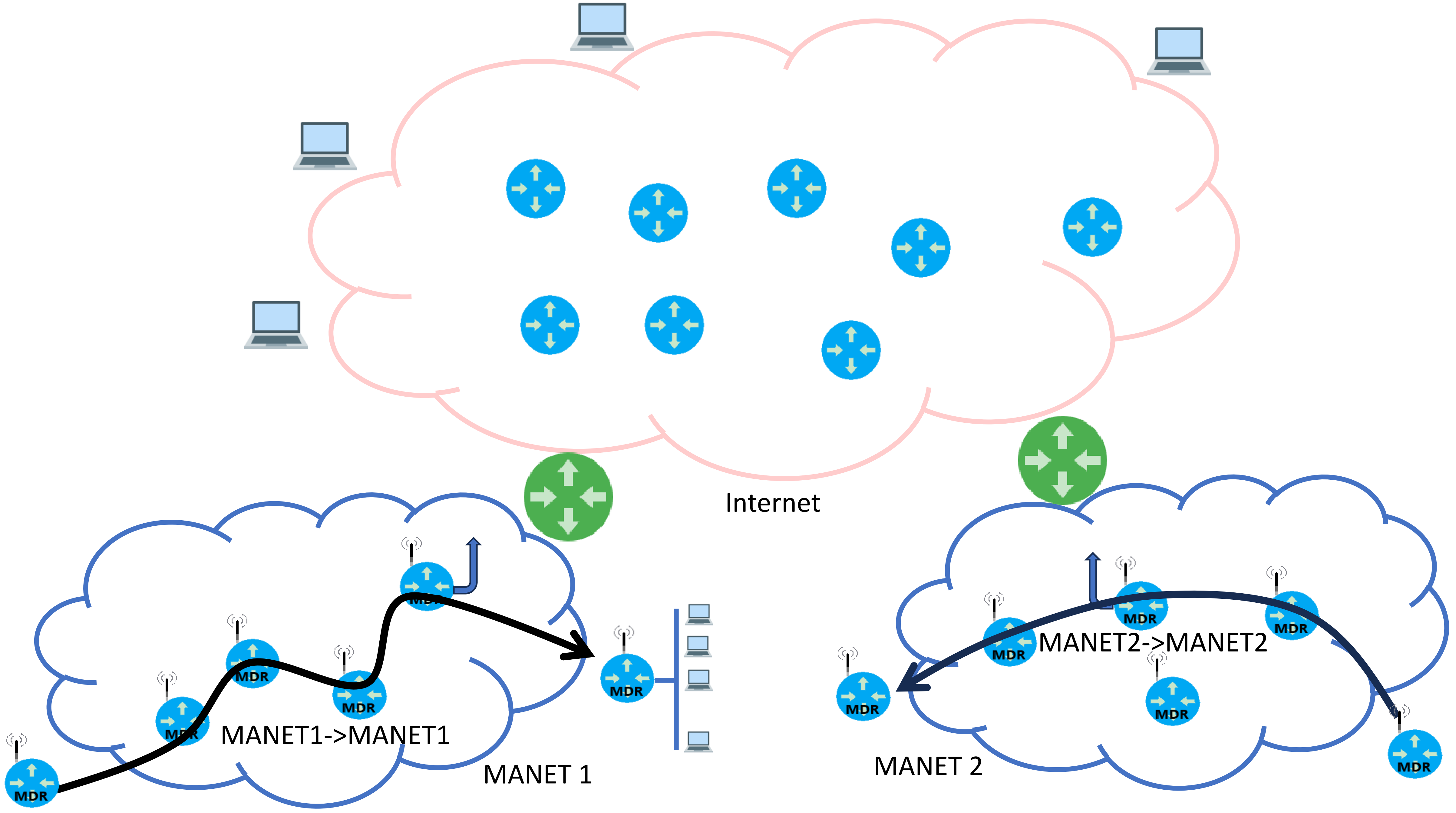
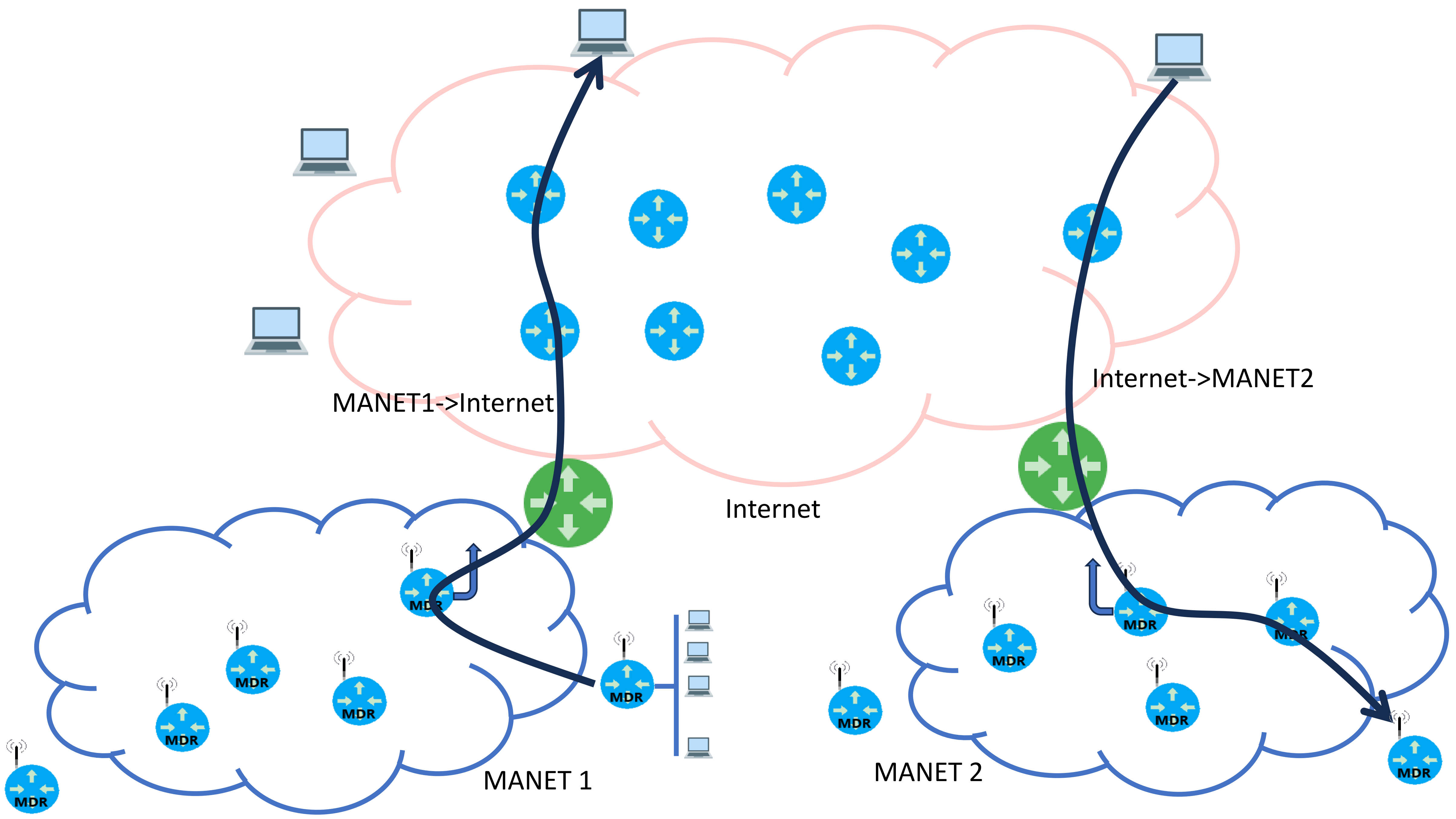


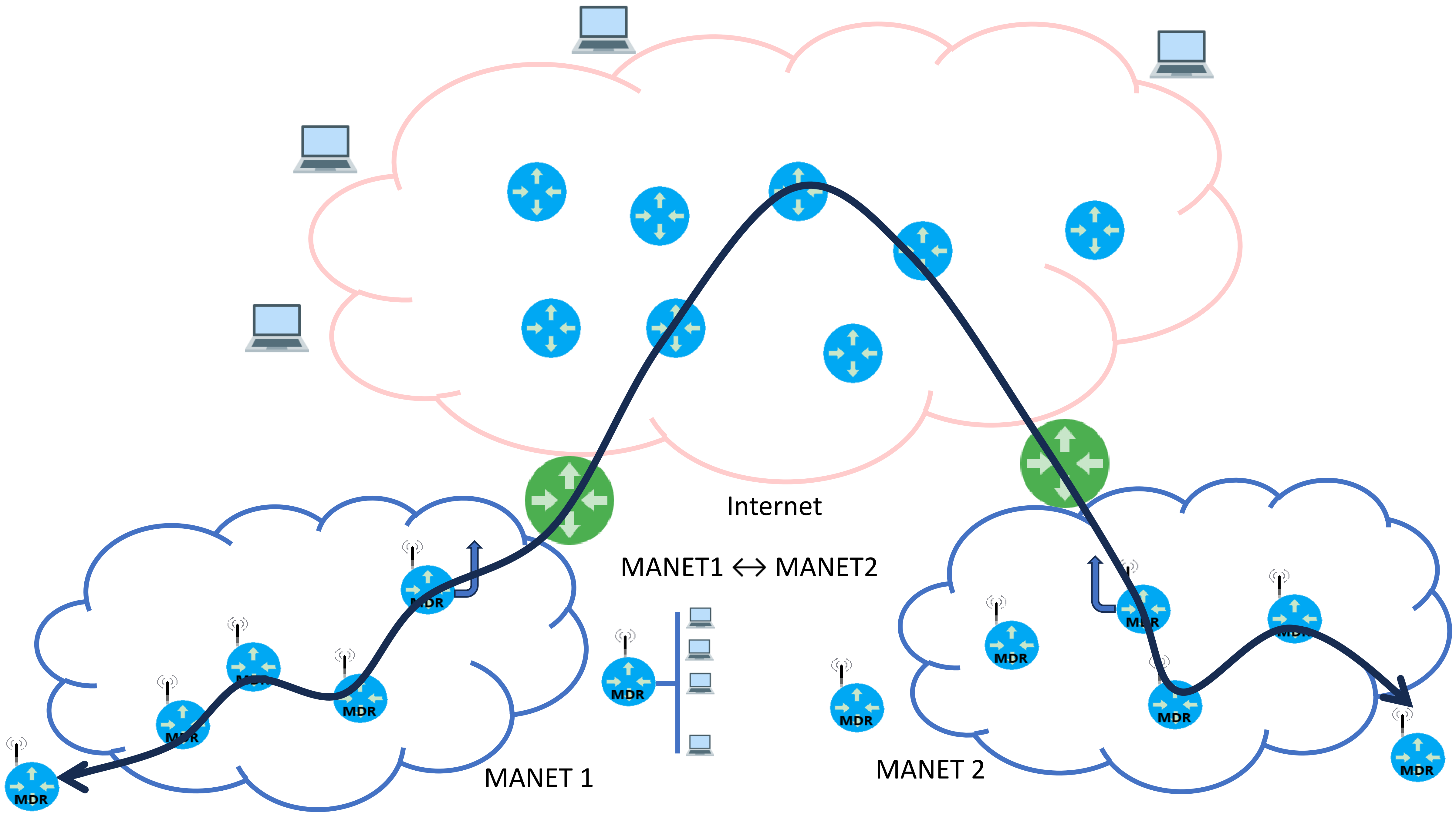
Internet
MDR
MDR
MDR
MDR
MDR
MDR
MDR
MANET 1
MDR
MDR
MDR
MDR
MDR
MDR
MANET 2

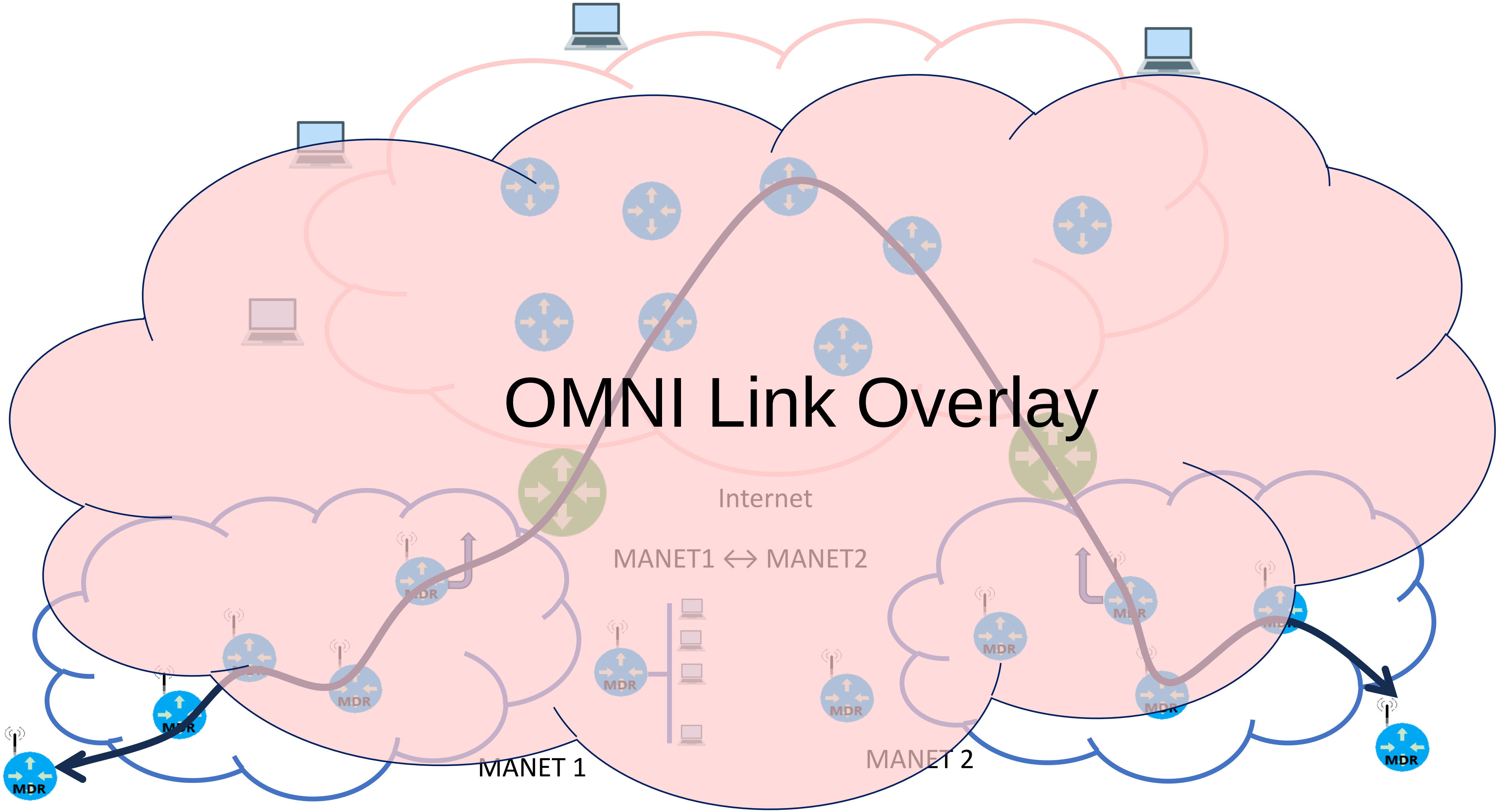


Internet
MDR
MDR
MDR
MDR
MDR
MDR
MANET1->MANET1
MANET 1
MDR
MDR
MDR
MANET2->MANET2
MDR
MDR
MDR
MANET 2



MANET1->Internet
Internet->MANET2
Internet
MANET 1
MANET 2
MDR


Internet
MANET1 ↔ MANET2
MANET 1
MANET 2
MDR
MDR
MDR
MDR
MDR
MDR
MDR
MDR
MDR
MDR



OMNI Link Overlay
Internet
MANET1 ↔ MANET2
MANET 1
MANET 2
MDR

Global Mobile Internetworking (AERO/OMNI)

- IPv6 Multilink Local Addressing (MLA) within MANETs
  - Standard MANET routing protocols
- IPv4/IPv6 Globally Unique Addressing (GUA) between Internet peers
- OMNI Link as Adaptation Layer Overlay based on IPv6 Encapsulation
- IPv6 Neighbor Discovery (IPv6ND) as AERO/OMNI Control Messaging
- MANET Internetworking using AERO/OMNI:
  - Proxy/Servers extend IPv4/IPv6 GUAs to MANET Clients (DHCPv6)
  - OMNI interface supports Multilink coordination
  - AERO control messaging supports Dynamic flow management
  - Distributed mobility management (global and localized mobility)
  - Header compression conserves bandwidth
  - Packet size diversity maximizes performance
  - Multi-layer security architecture protects control and data planes

Next Steps

- AERO/OMNI as MANET Working Group Items?