Simple WAN Fabrics

DMS Lab

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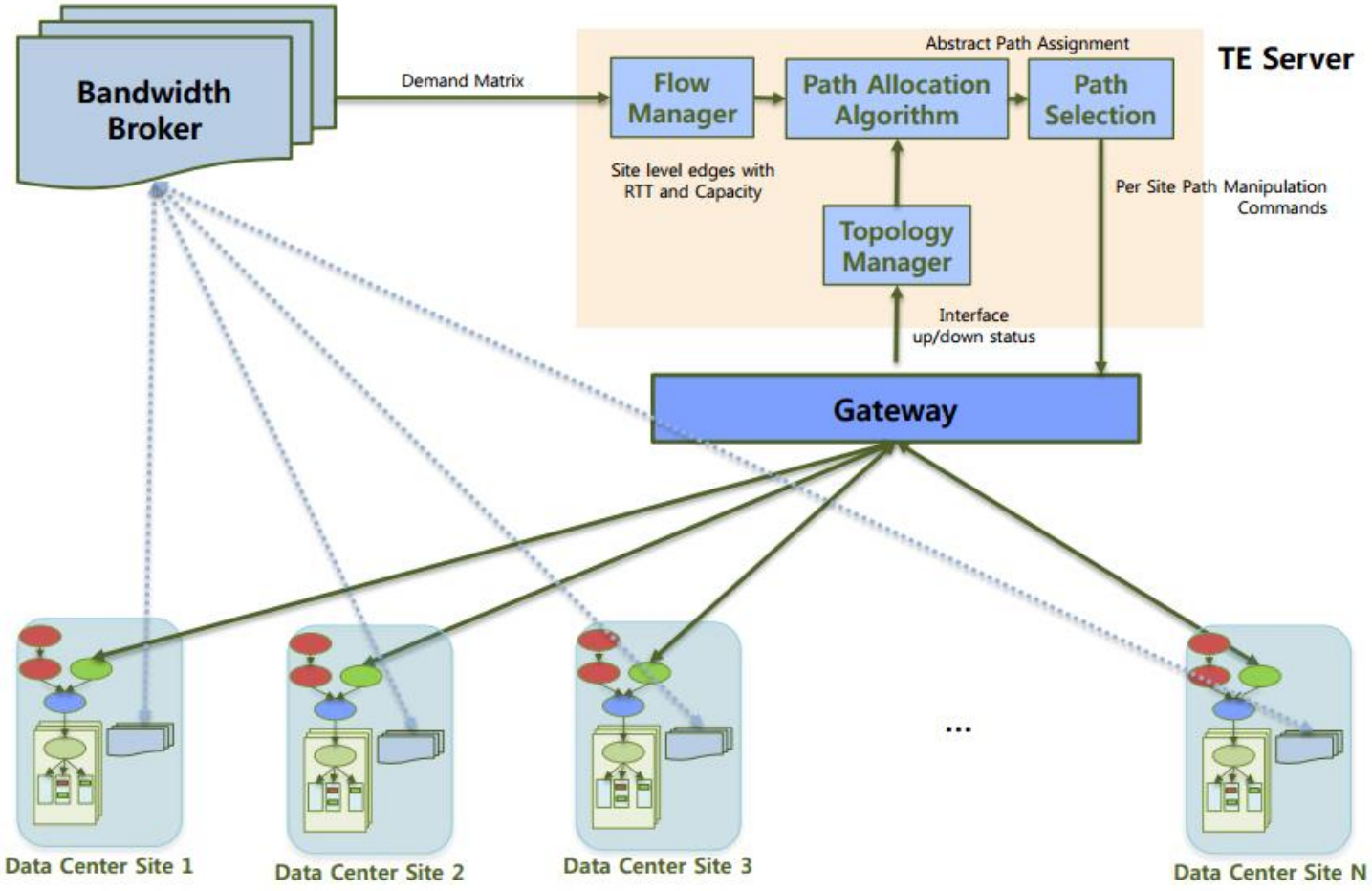
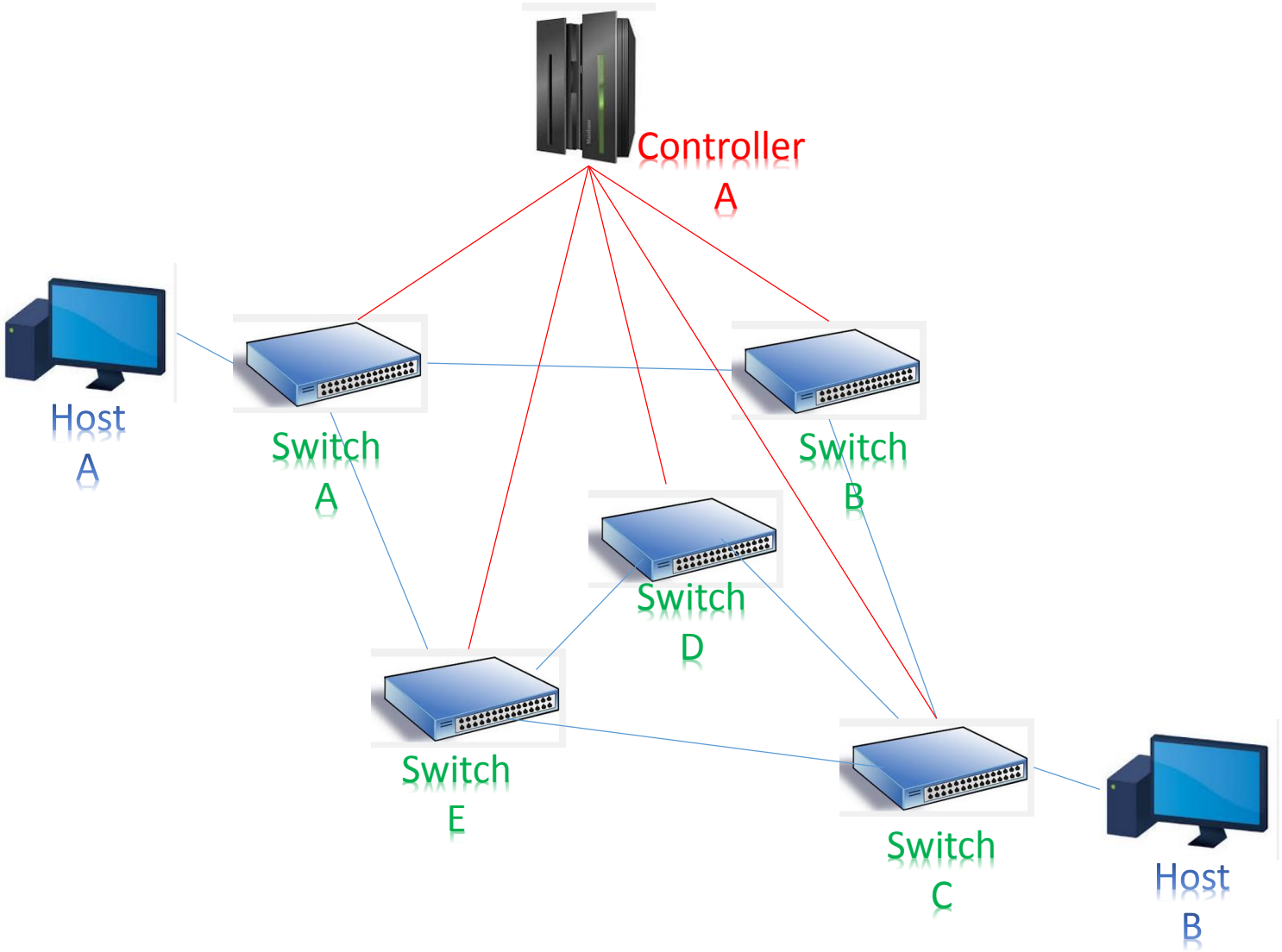
WAN Fabrics Architecture



Simple WAN Fabrics



Object of WAN Fabrics

- Centralized topology management
  - Optimized routing
  - High efficiency using network resource

Specification

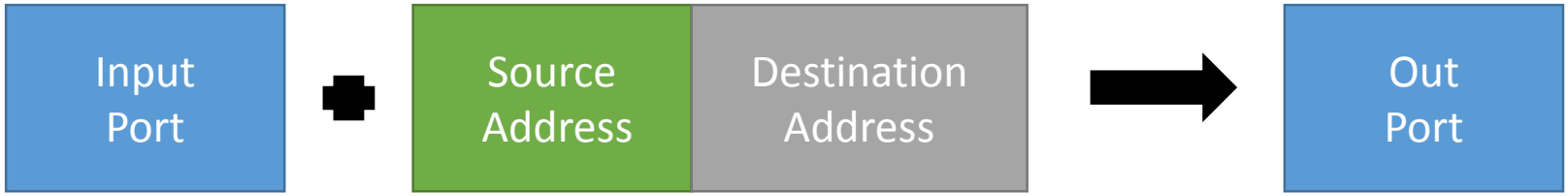
- Switch
  - 패킷 송수신 기능
  - 패킷 라우팅 기능(플로우 테이블)
- Host
  - 패킷 송수신 기능
- Controller
  - 패킷 송수신 기능
  - 토폴로지 파악 기능
  - 패킷 경로 설정 기능

Concept Design

- Simple Packet

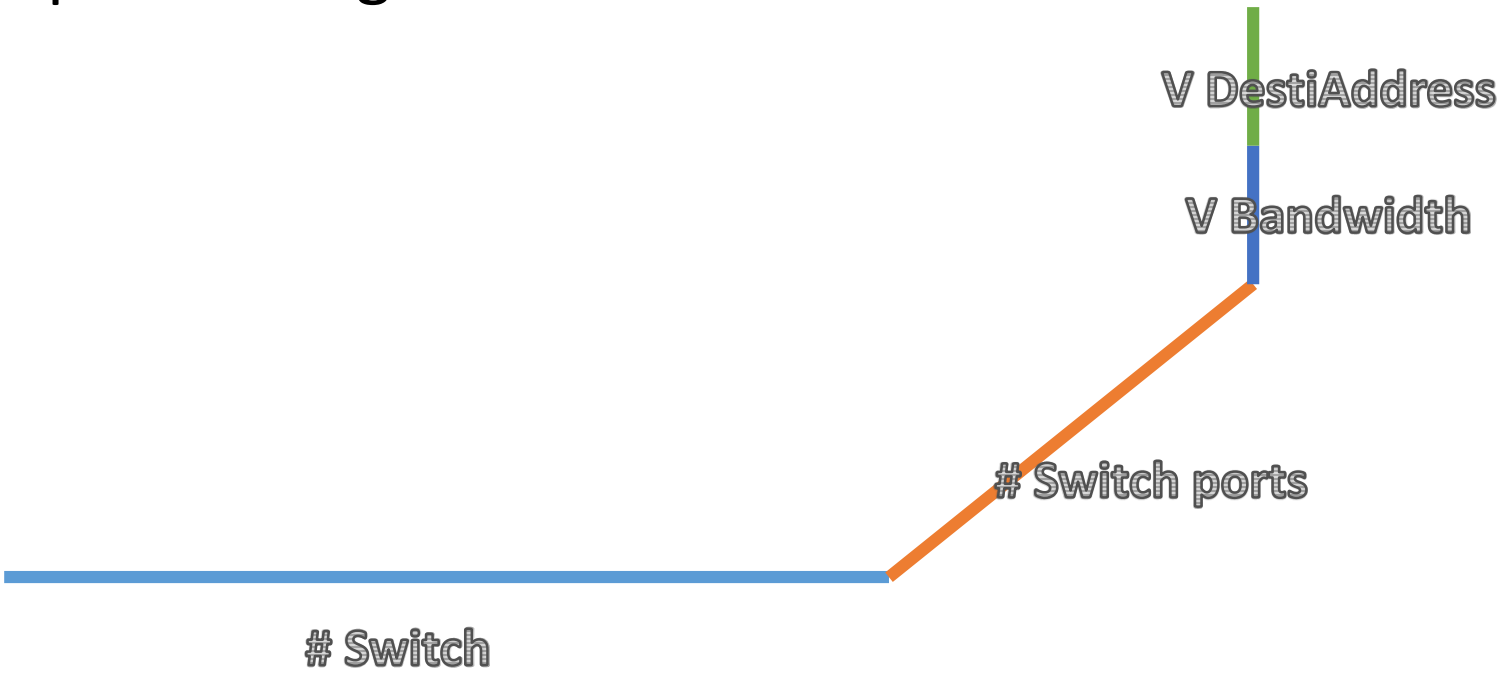
Concept Design

- Simple Flow Table



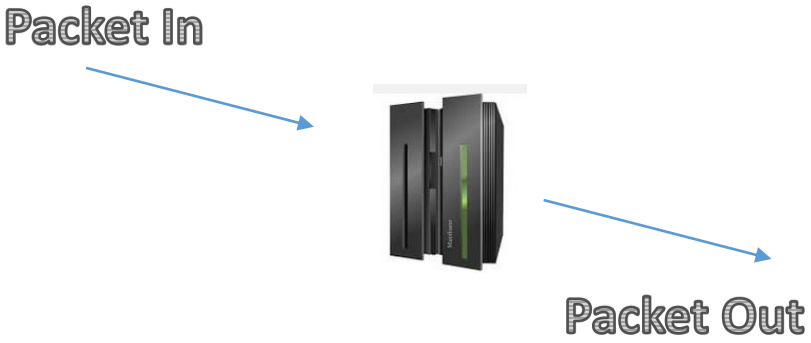
Concept Design

- Simple Routing Info



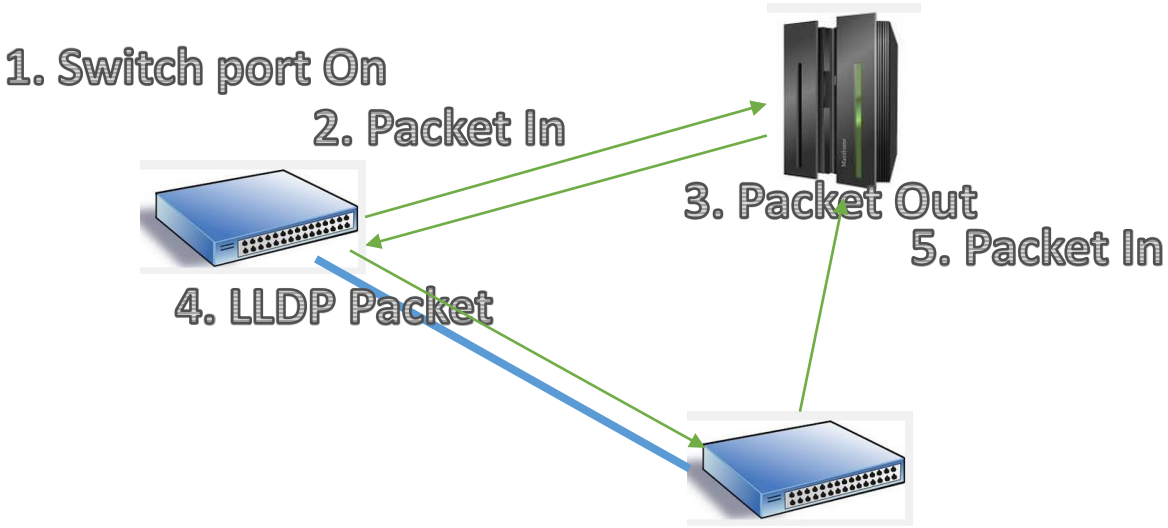
Concept Design

- Controller
  - 패킷 송수신



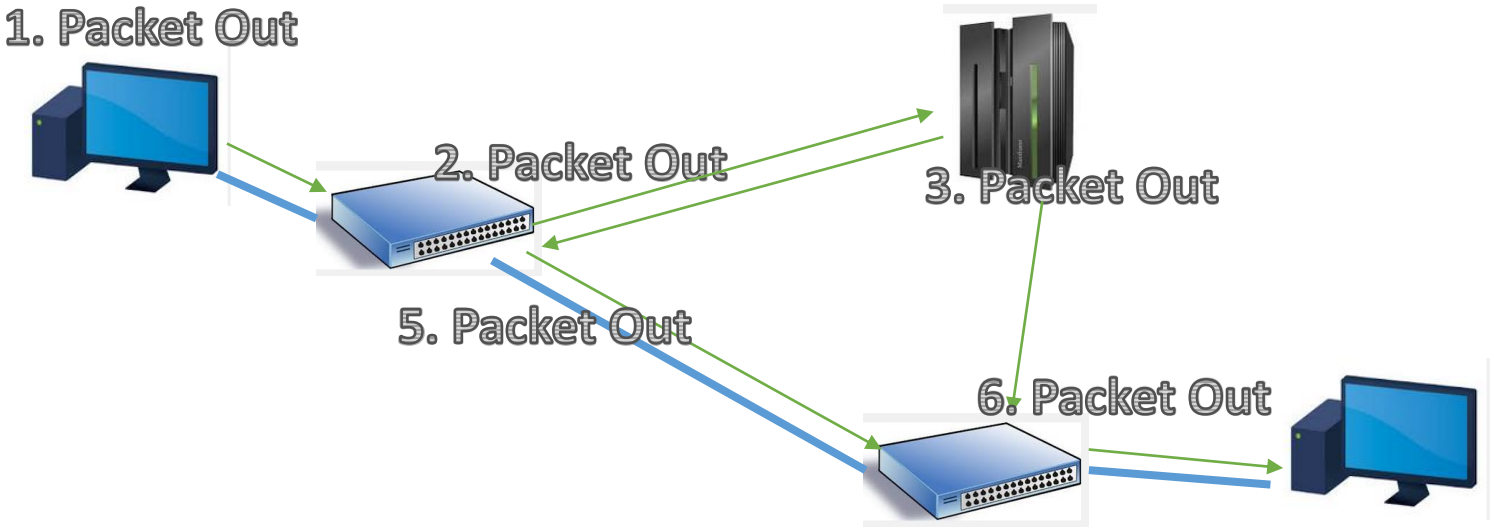
Concept Design

- Controller
  - 토폴로지 파악



Concept Design

- Controller
  - 패킷 경로 설정



Concept Properties

- Packet은 연결된 경로만을 지나가야 한다.
  - AG(AX())
- Packet의 흐름은 Flow Table을 따라야 한다.
  - AX()
- 한번도 사용하지 않은 경로가 없어야 한다.
  - EF()

Modeling(Pseudocode)

- Module Host
  - Int MyAddress
  - Boolean port
  - Int DestinationAddress

Modeling(Pseudocode)

- Module Switch
  - Int MyAddress
  - Boolean port[#]
  - Int Bandwidth[#]
  - Int DestinationAddress[#]

  - Int Flowtable[#][4]

Modeling(Pseudocode)

- Module Controller
  - Int MyAddress
  - Boolean port[#]
  - Int DestinationAddress[#]
  - Int RouteInfo[#Switch][#SwitchPortBand][2]
    - //[][][0] = Bandwidth , [][][1] = Destination address

Thank You