



DS-Lite Implementation

Key considerations for implementing DS-Lite in a Service Provider Network

UK IPv6 Council - Transition Technologies Workshop

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Why choose DS-Lite?

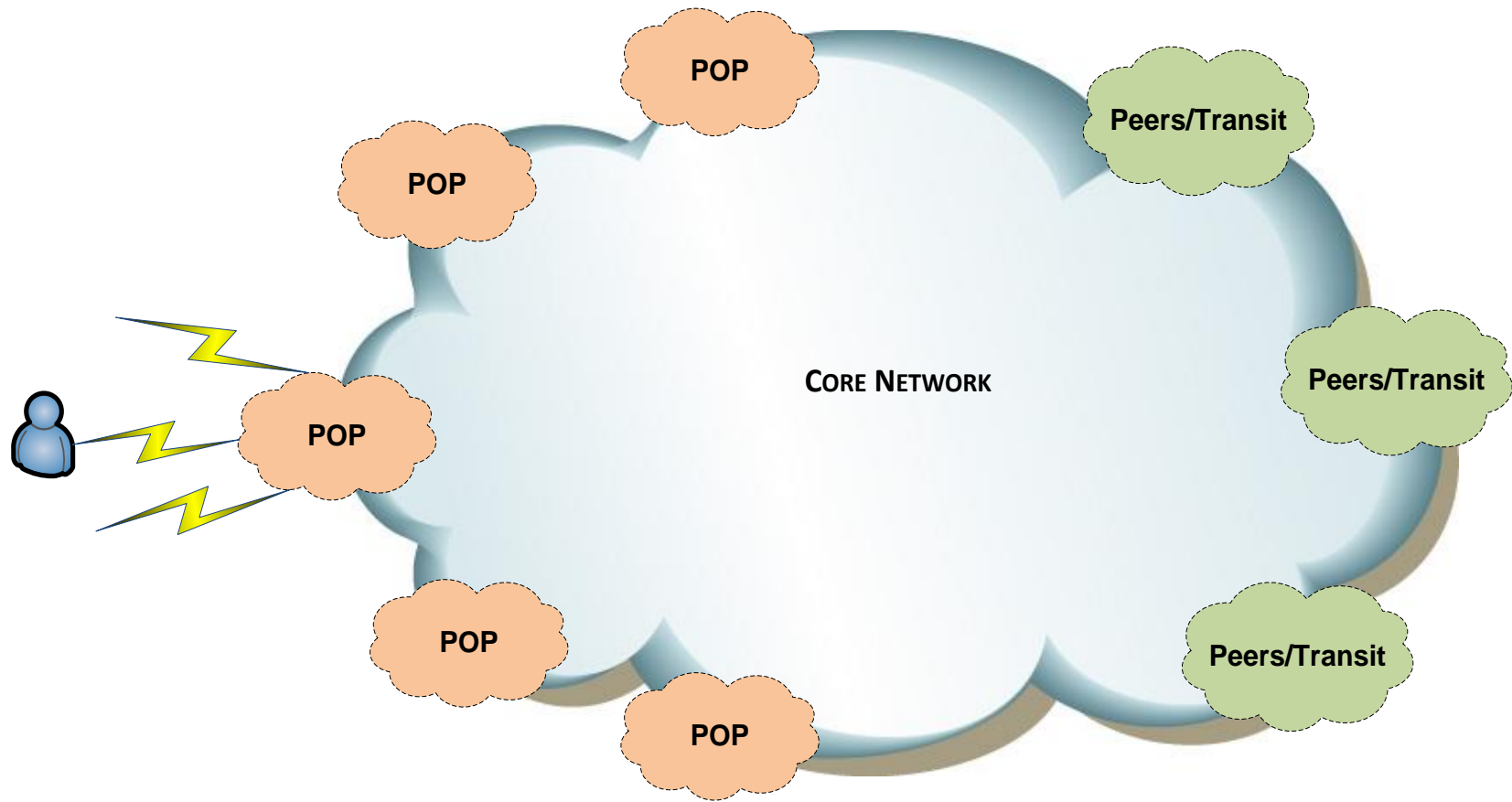
- Shortage of IPv4 addresses
- Ease of integration
 - Well known config changes
 - Available CPE firmware
- Simple
 - Use of well known technologies
- Almost transparent to customers

Drawbacks

- NAT Limitations
 - ALGs
 - “Strict NAT”
- Tunnelling Issues
 - Increased latency
 - Extra overheads
- Complex Client to Client connectivity
- Relatively more expensive AFTRs?

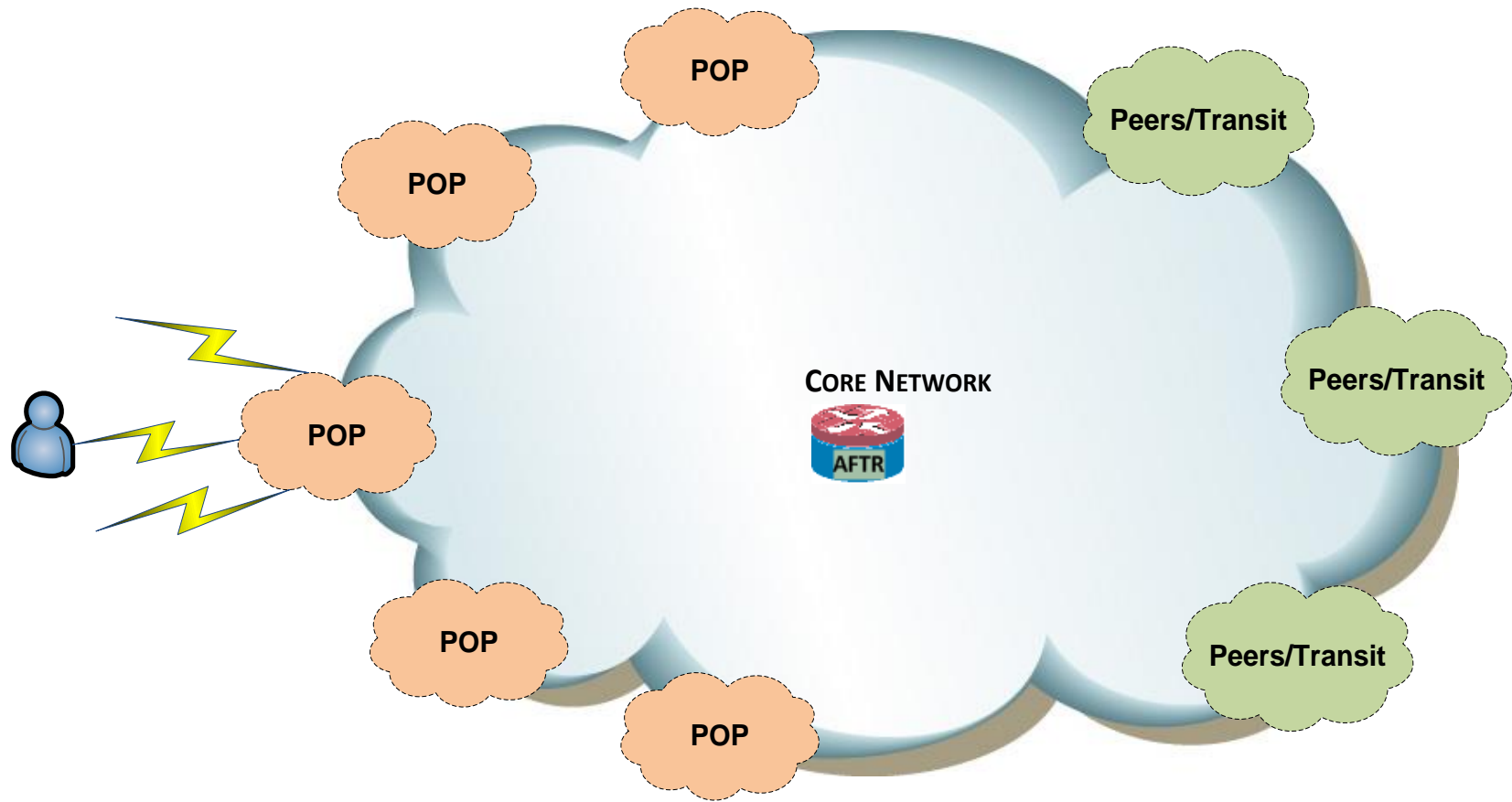


**OTHER POINTS TO
CONSIDER**



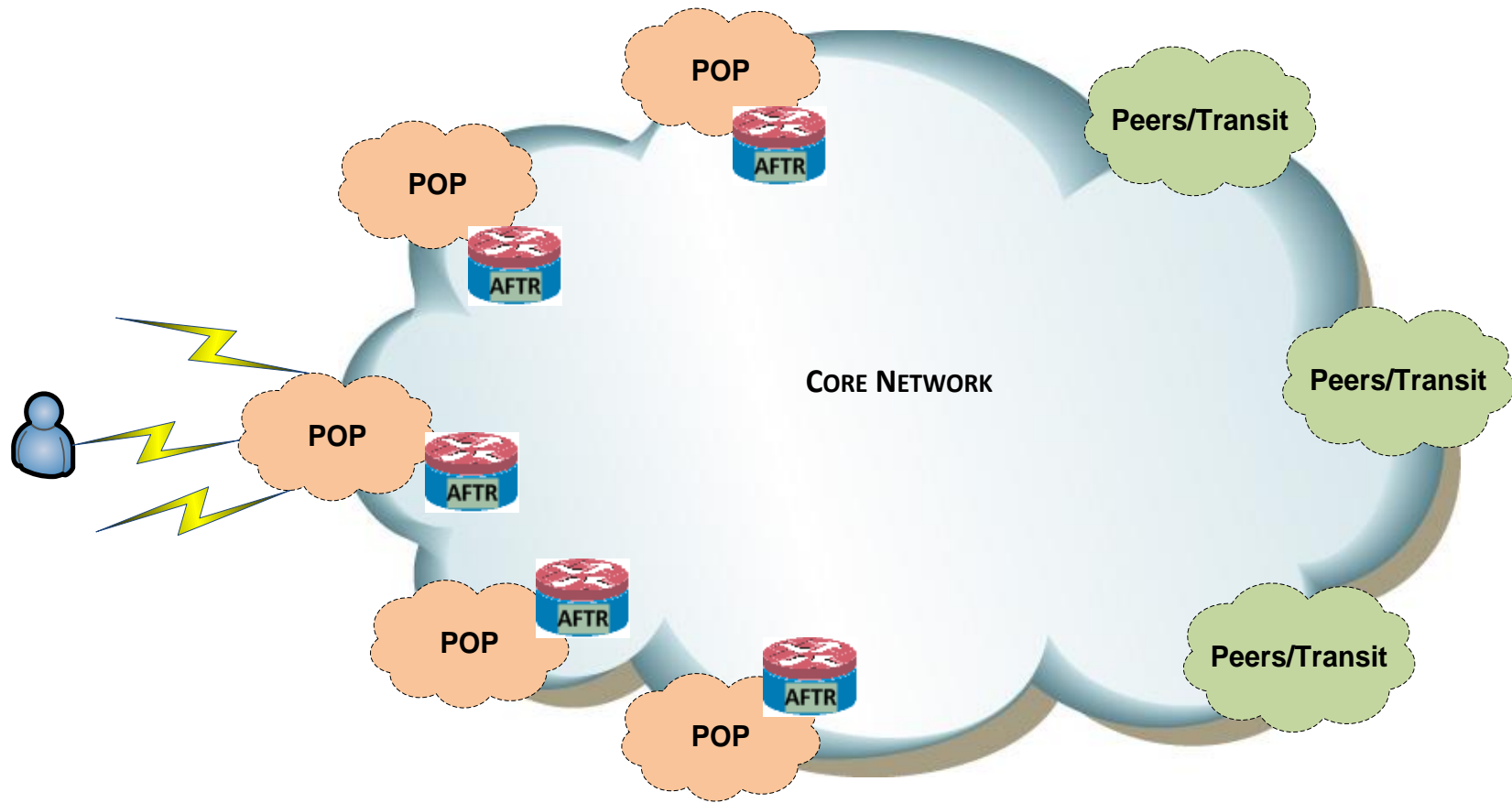
#1: Which Vendor?

- Critical features
 - Fragmentation and Reassembly (RFC 2473)
 - TCP MSS Adjustment
 - NAT Logging
- Optional features
 - Port Control Protocol (RFC 6887)
 - NAT ALGs (PPTP, SIP, FTP)
 - QoS translation



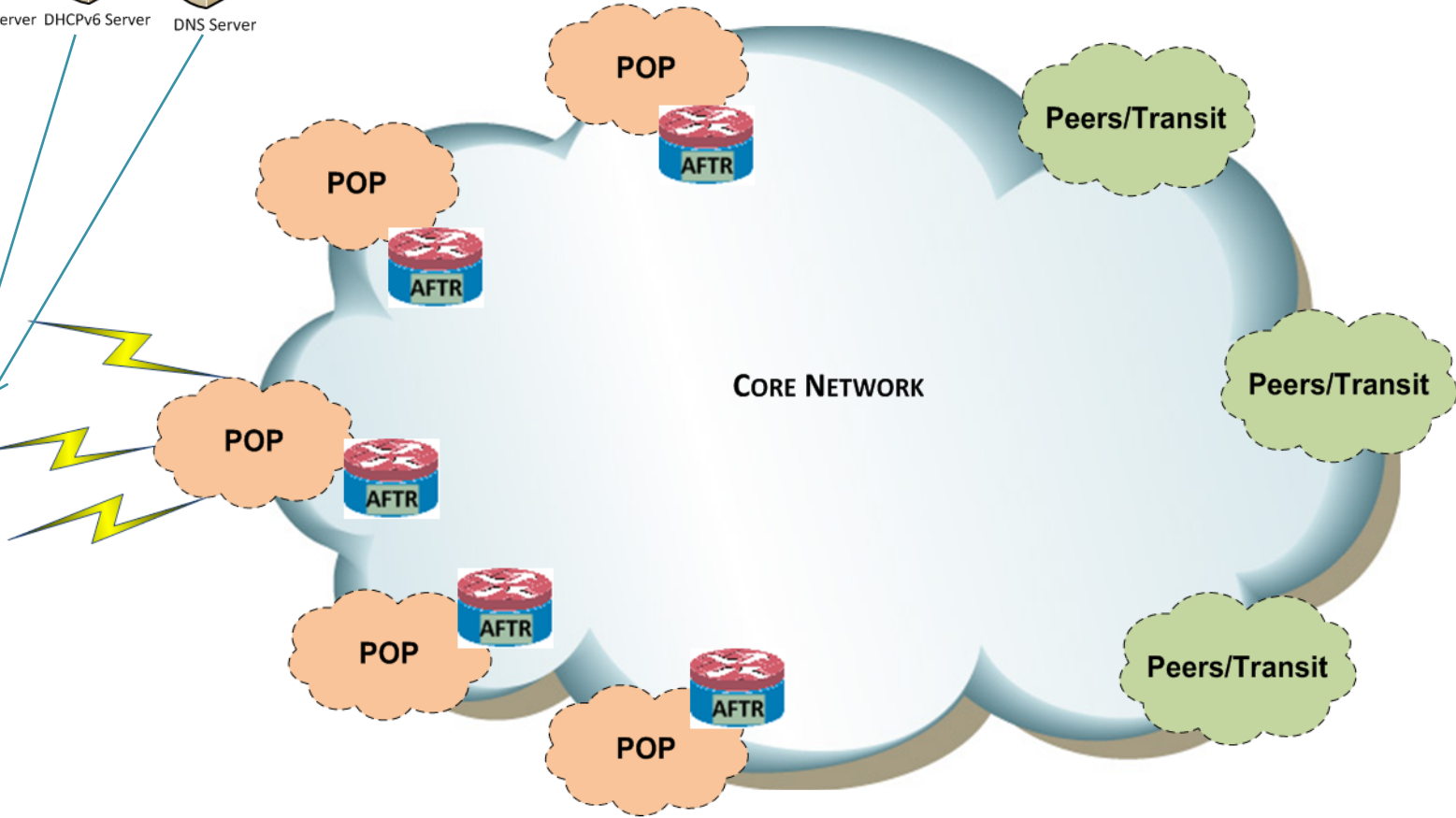
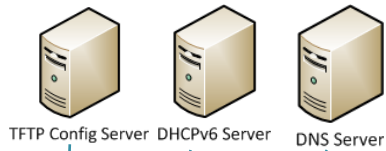
#2: AFTR Location

Central	Distributed
Higher density boxes, generally lower cost overall	Lower density boxes, generally higher cost overall
Closer to network exit point, farther from customer	Farther to network exit points, closer to customer
Higher latency	Lower latency
More efficient use of NAT Pools	Lees efficient use of NAT Pools
Increased chance of tromboning traffic	Decreased chance of tromboning traffic



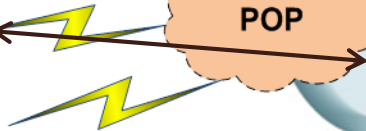
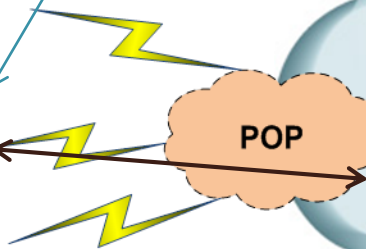
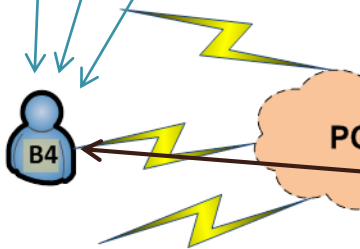
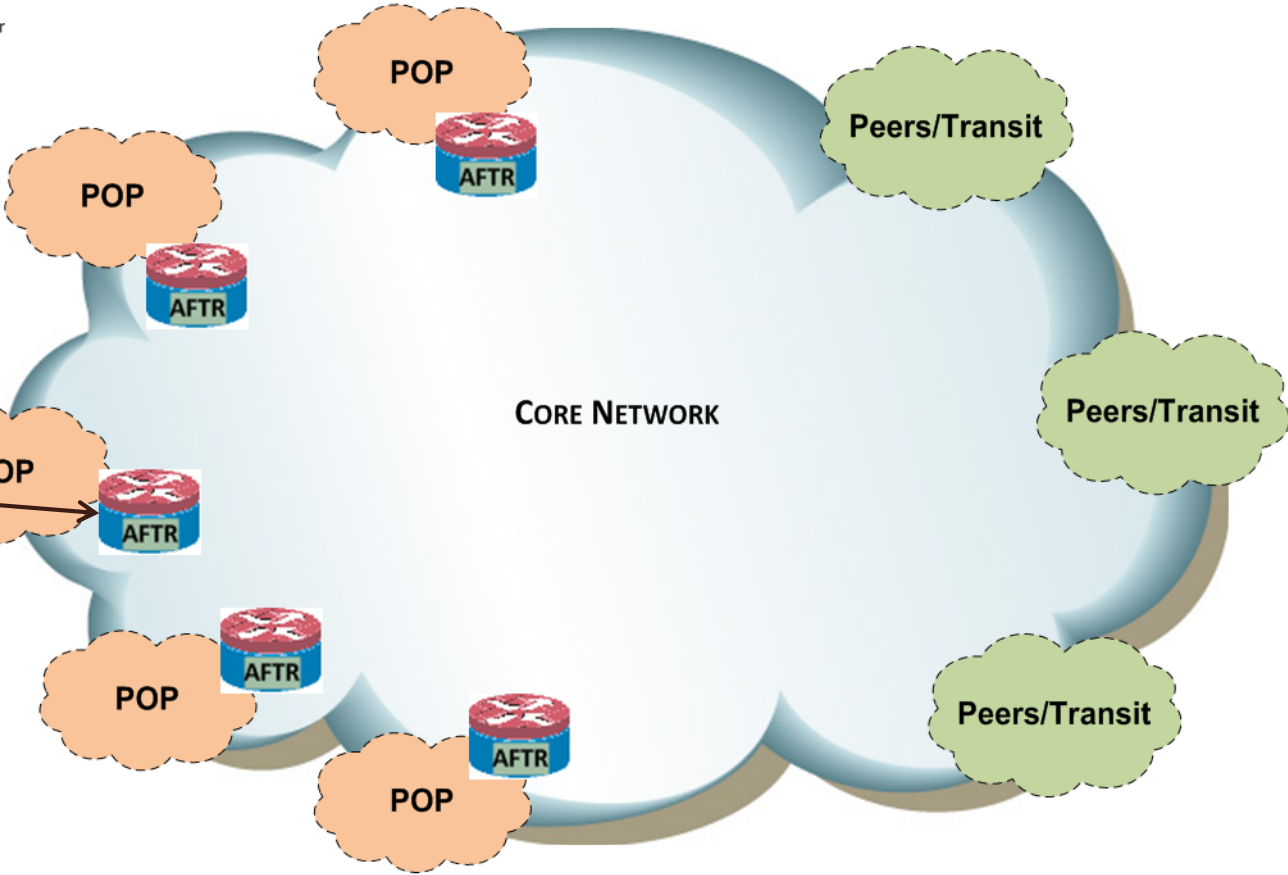
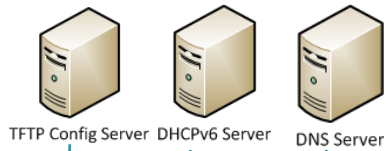
#3: Network Integration

- How to enable B4?
 - Config file
 - Others (SNMP,TR-069)
- How to instruct B4 of AFTR Address
 - DHCPv6 option:AFTR-Name (RFC 6334)
 - Others (config file, SNMP,TR-069)



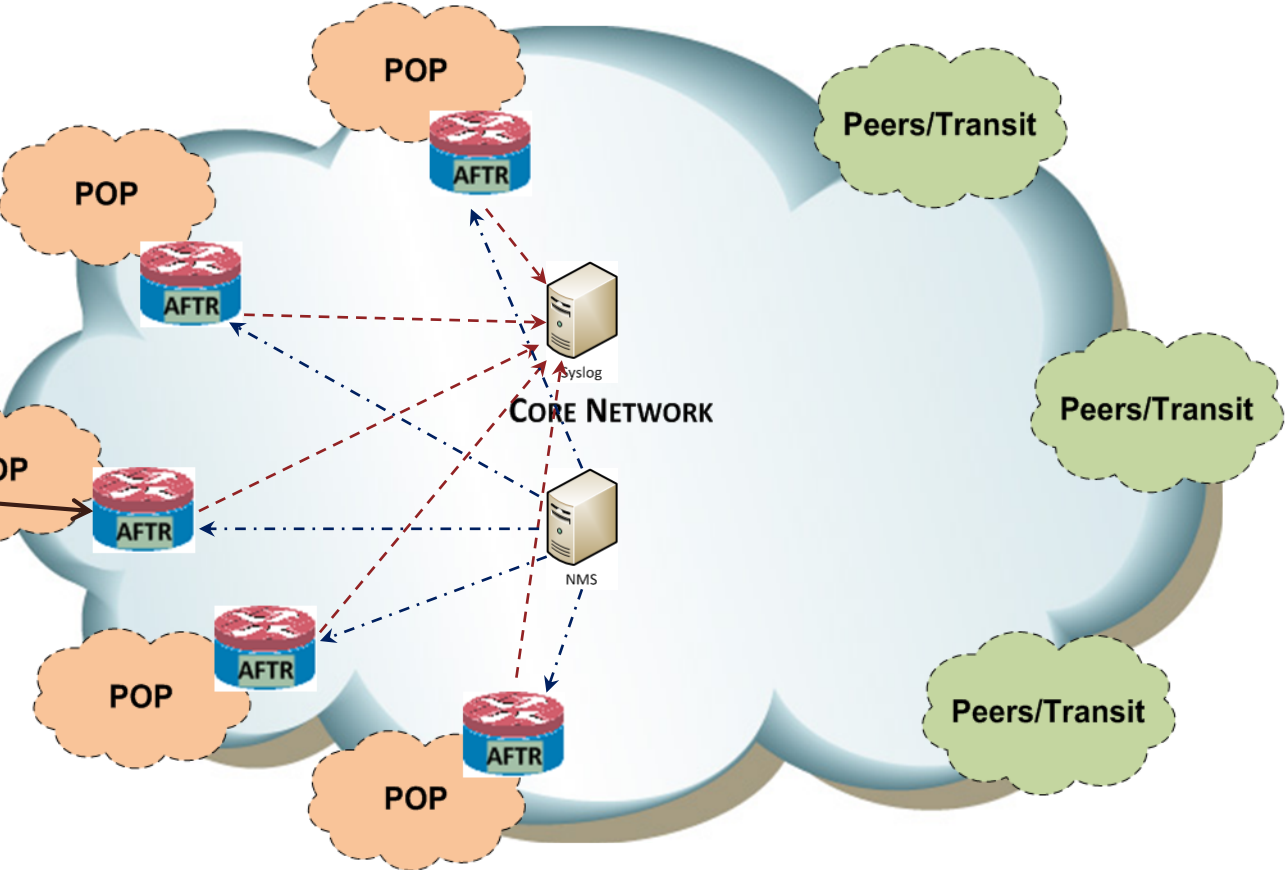
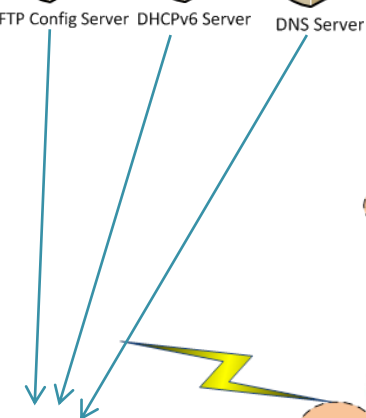
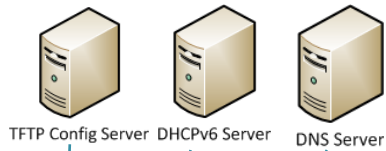
#4: B4/AFTR Association:

- Anycast
- DNS Views



#5: Monitoring and Logging

- Monitoring of tunnels, subscribers
 - SNMP
 - CLI
- NAT Logging
 - RADIUS
 - Syslog



#6: Value Added Services

- Parental control?
- Security?