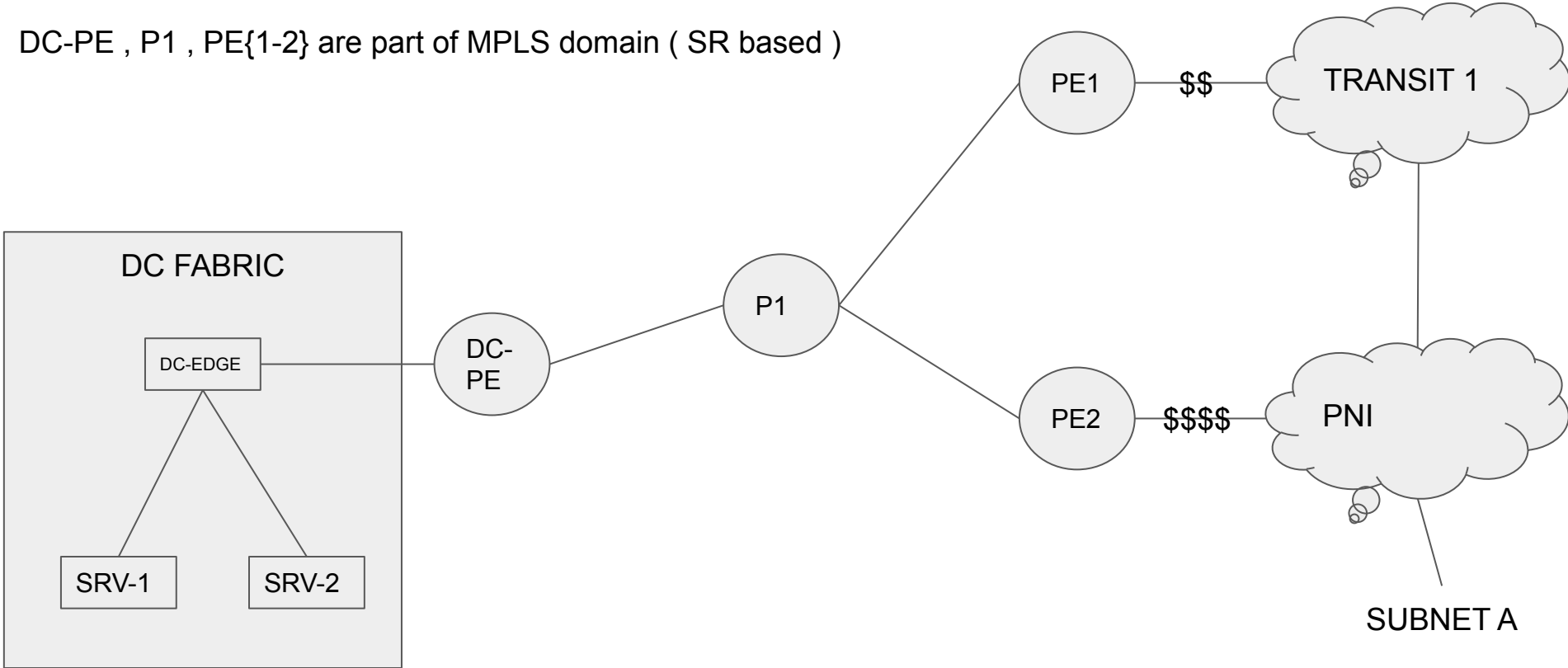
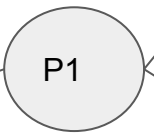
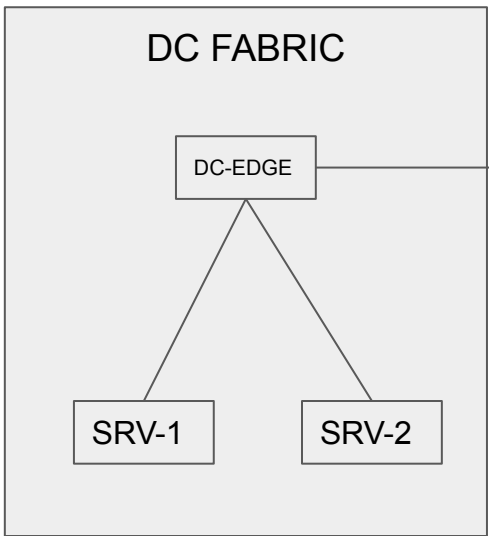
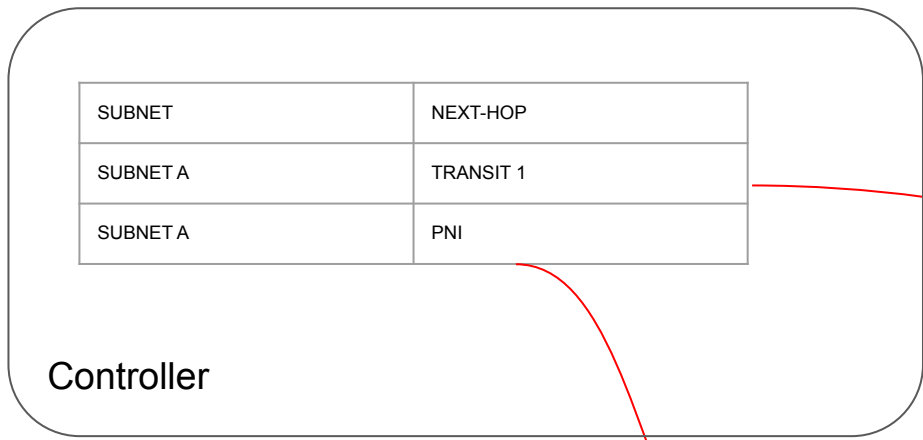


Requirements:

- 1. SRV1 to PNI will use TRANSIT 1 if available
- 2. SRV1 will fall back to PNI if TRANSIT 1 is not available
- 3. SRV2 to SUBNET A will use PNI
- 4. SRV2 will fall back to TRANSIT 1 if PNI is not available

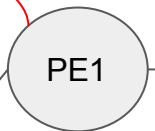
DC-PE , P1 , PE{1-2} are part of MPLS domain (SR based)





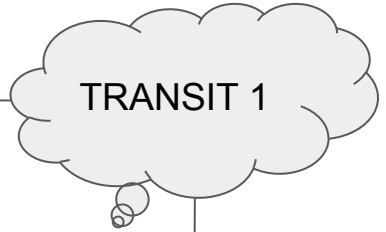
BMP

A red line representing the BMP connection, originating from the Controller and connecting to PE1 and PE2.



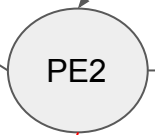
EPE LBL 100

A line connecting PE1 to TRANSIT 1, labeled EPE LBL 100.



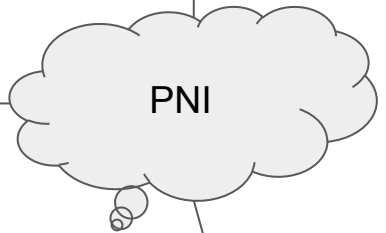
ANYCAST SID: 1000000

A line connecting P1 to PE2, labeled ANYCAST SID: 1000000.



EPE LBL 200

A line connecting PE2 to PNI, labeled EPE LBL 200.



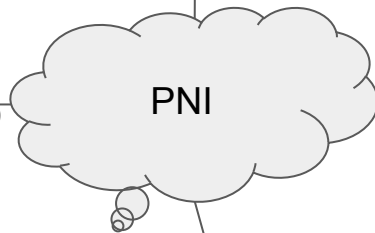
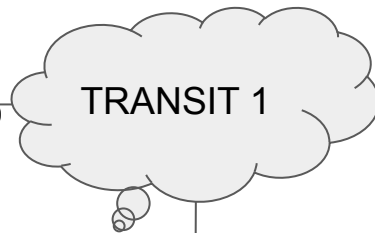
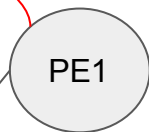
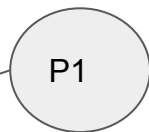
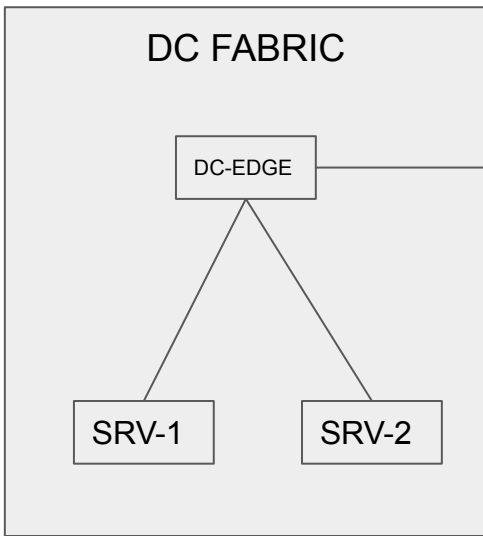
SUBNET A

A line connecting PNI to SUBNET A.

SUBNET	NEXT-HOP	LBL
SUBNET A	TRANSIT 1	100
SUBNET A	PNI	200

Controller

— BGP-LS/LU

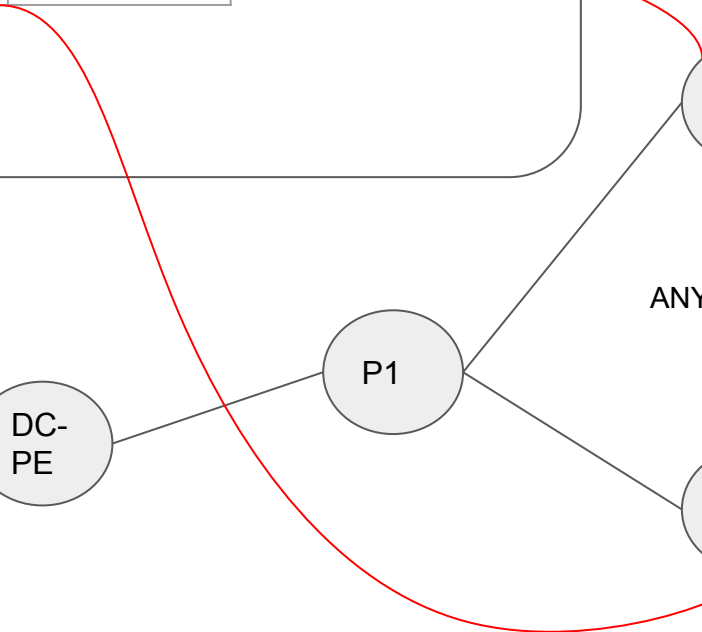


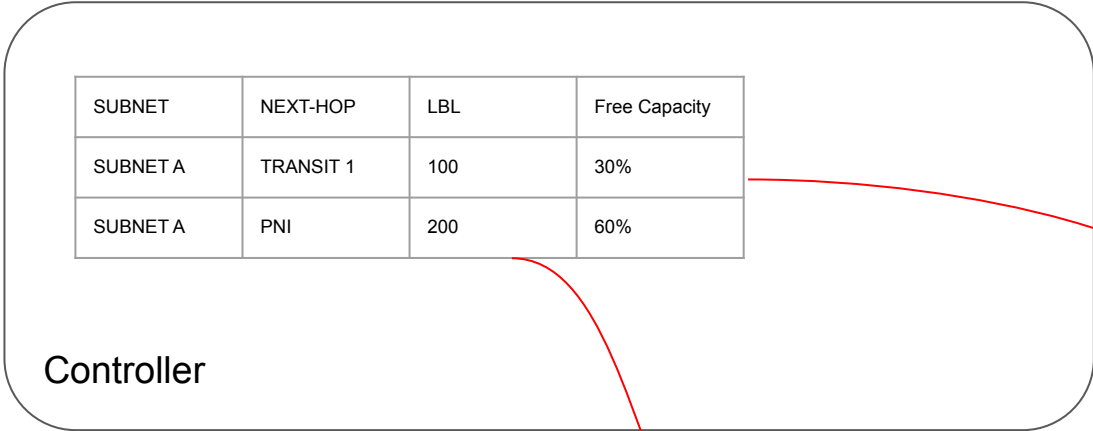
SUBNET A

EPE LBL 100

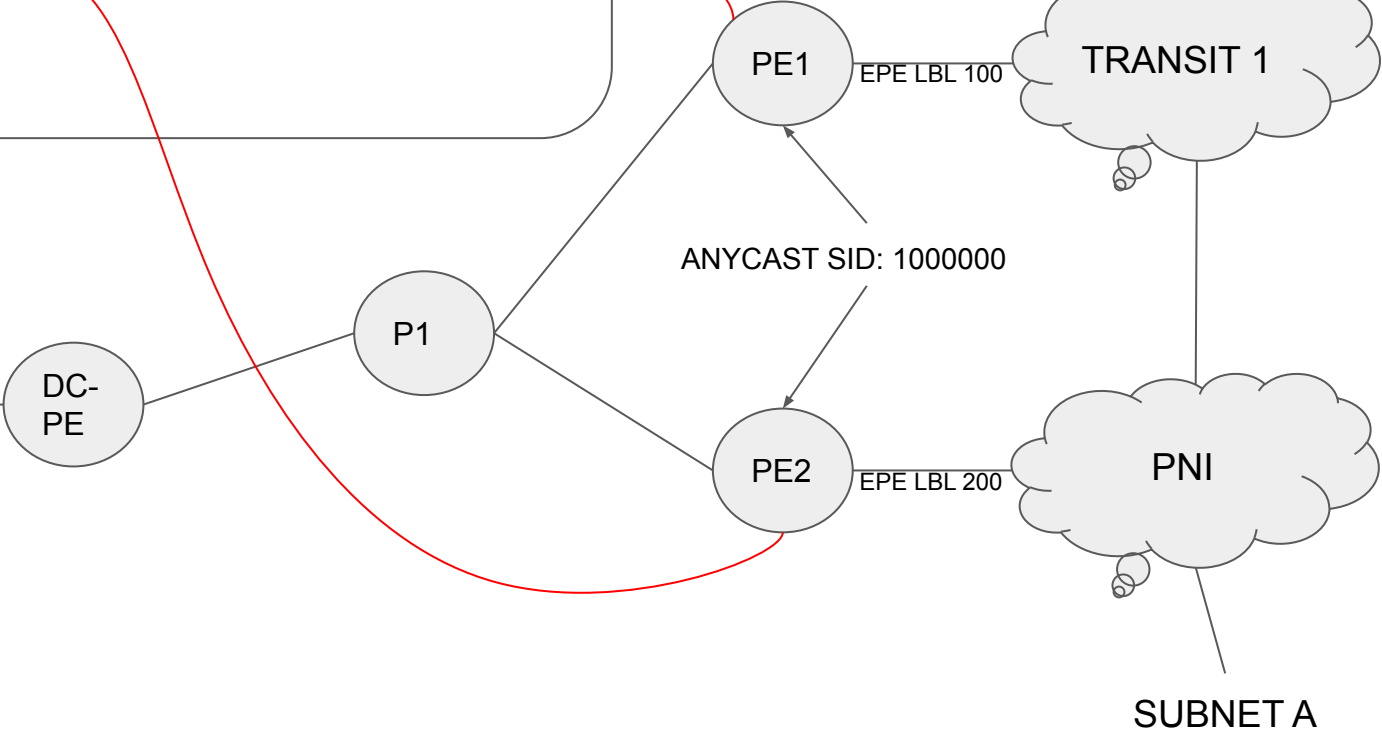
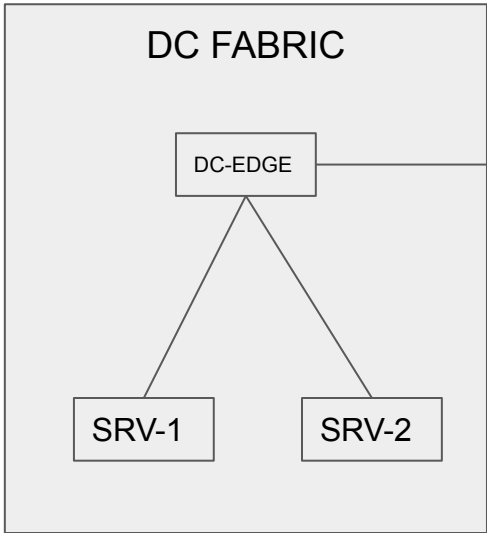
ANYCAST SID: 1000000

EPE LBL 200





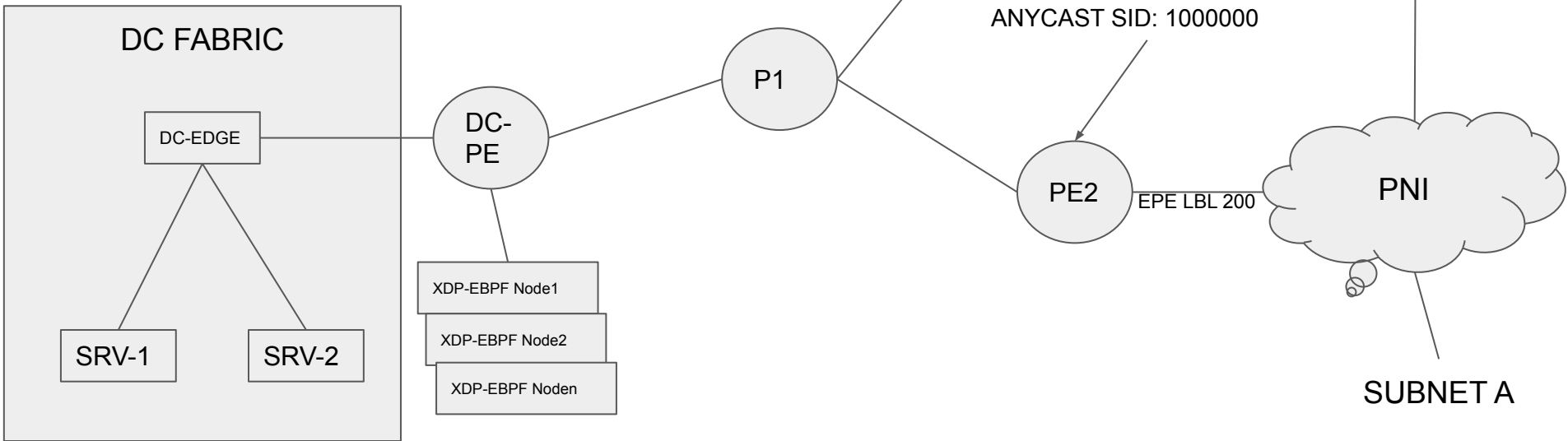
Telemetry



SUBNET	NEXT-HOP	LBL	Free Capacity	PRIORITY
SUBNET A	TRANSIT 1	100	30%	SRV1,SRV2
SUBNET A	PNI	200	60%	SRV2,SRV1

Controller

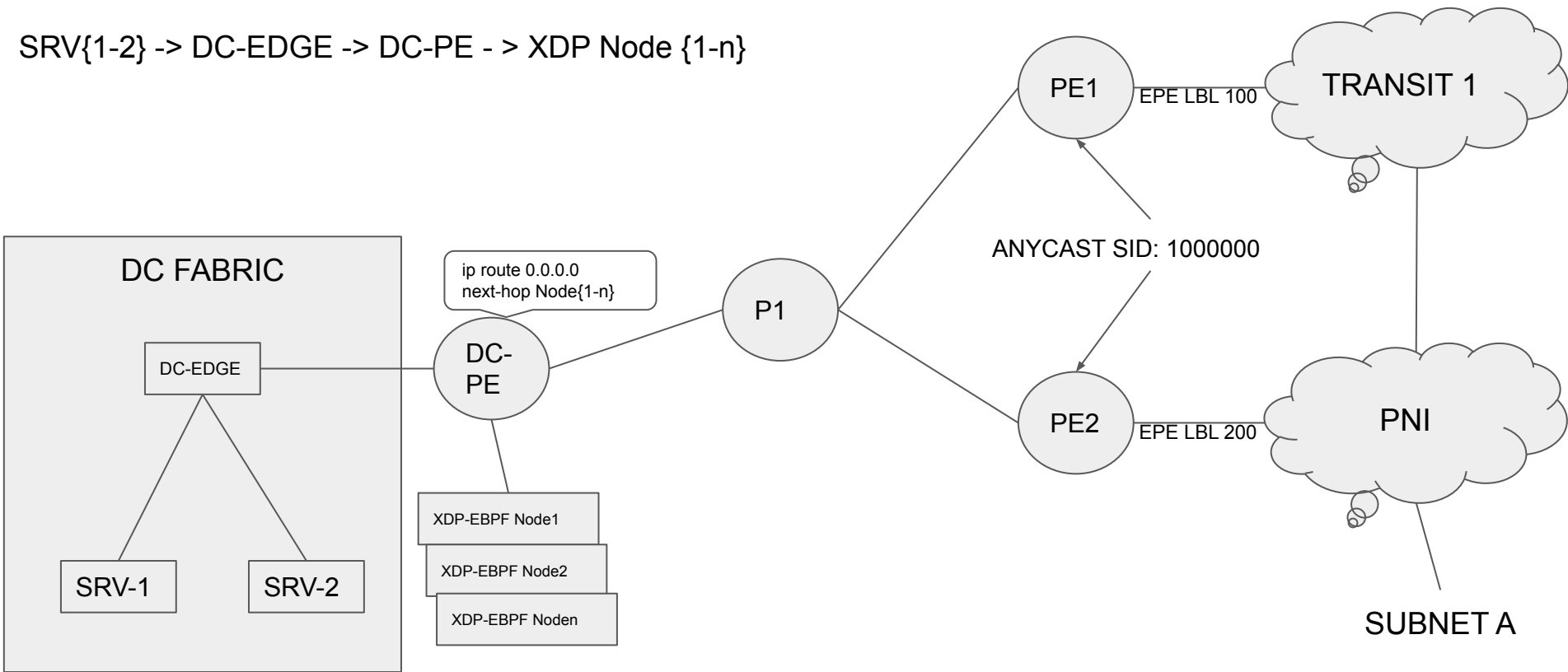
Business Logic



- Add XDP EBPf nodes into the network
- All nodes advertise an anycast ip
- DC-PE is configured to route all traffic to ANYCAST

Traffic flow is ip only:

SRV{1-2} -> DC-EDGE -> DC-PE -> XDP Node {1-n}



SUBNET	NEXT-HOP	LBL	Free Capacity	PRIORITY
SUBNET A	TRANSIT 1	100	30%	SRV1
SUBNET A	PNI	200	60%	SRV2

Controller

XDP-EBPF Node1-n

eBPF MAP priority_client

IP_SRC	NEXT-MAP
SRV2	priority_dst

eBPF MAP priority_dst

DEST	LBL
SUBNET-A	200
*	1000000

eBPF MAP default_dst

DST	LBL
SUBNET-A	100
*	1000000

- Packet received on eBPF node
- Lookup ip_src in SRC_MAP and get next_map
- Lookup ip_dst in next_map and get LBL
- If no match use 1000000 as label

Once Label is found

- Swap src_mac with dst_mac
- Add mpls header
- Send packet back to the same interface

