

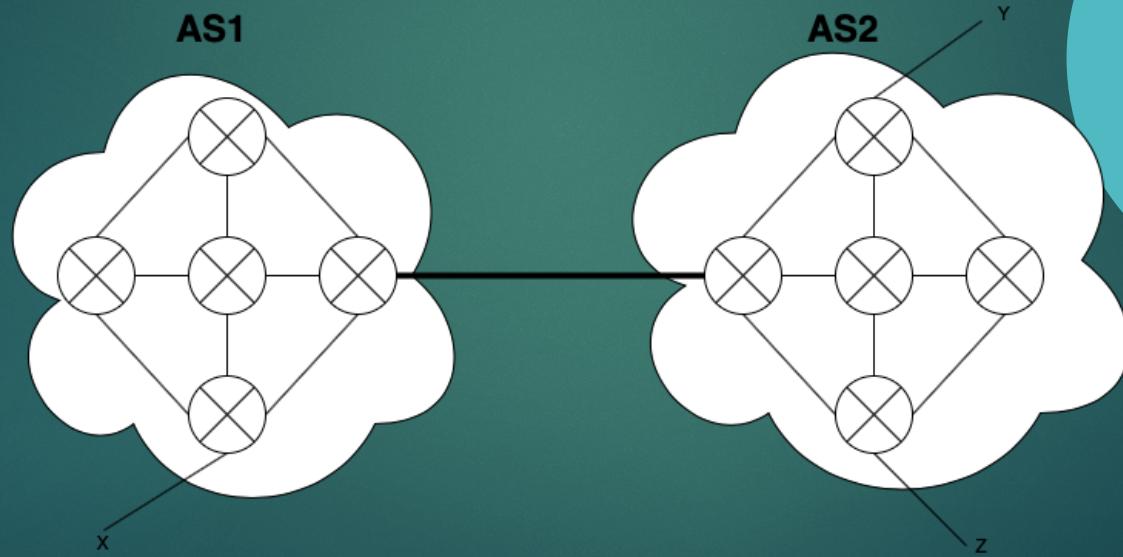
Service Specific Routing

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The current state of the Network

- ▶ BGP Propagated Prefixes (e.g. iBGP, eBGP)
 - ▶ Sharing a route includes multiple attributes (e.g. AS-PATH, NEXT-HOP)



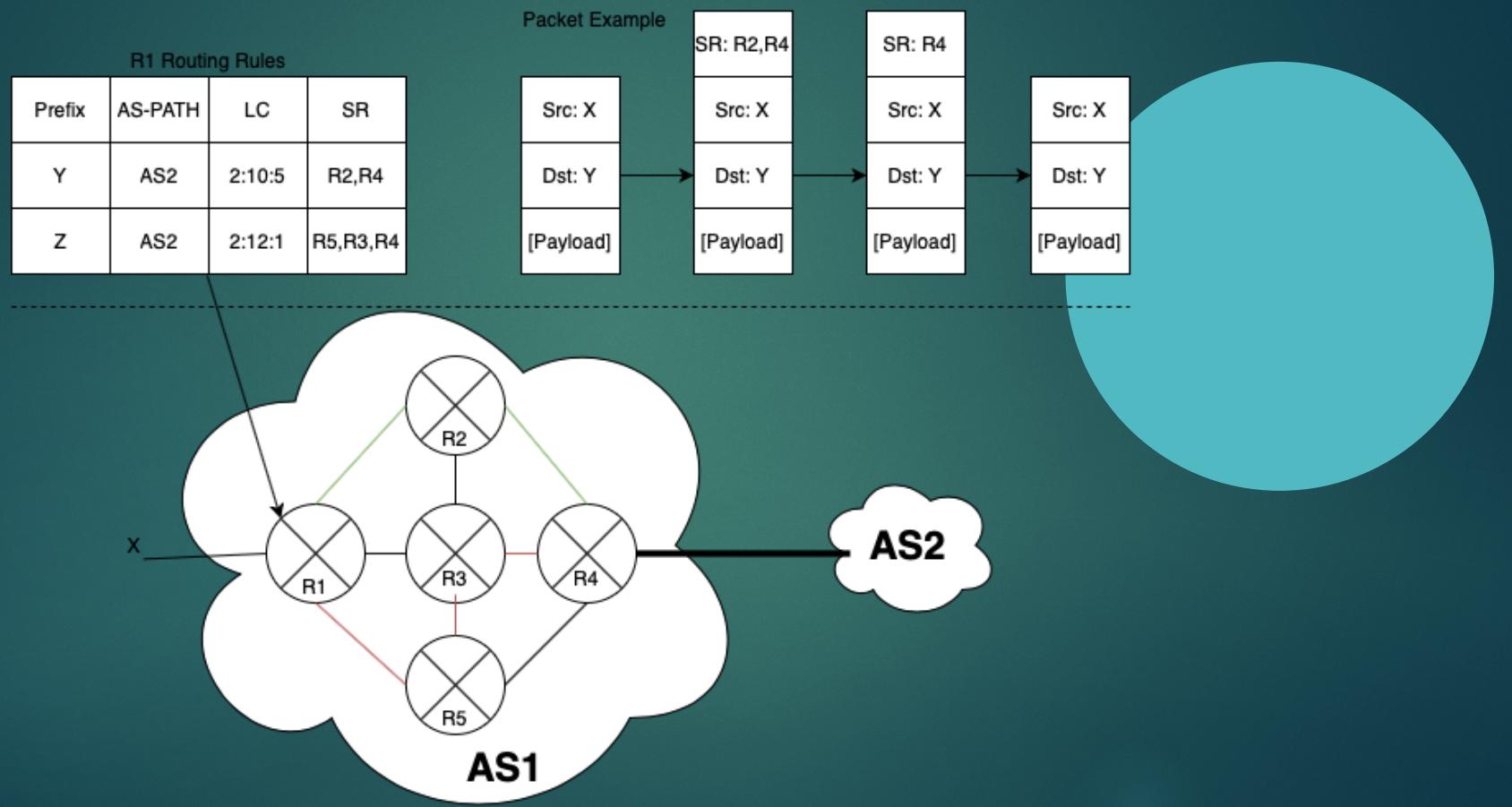
Issues with the Current State

- ▶ There really isn't any customization of traffic
 - ▶ Without SDN or an MPLS approach you can't really guide traffic
- ▶ 'Message in the bottle' network
 - ▶ Not really sure where the packet will go through
- ▶ All traffic is treated the same
 - ▶ No separation between 'high' or 'low' priority traffic

The Approach

- ▶ Inter-Domain Routing
 - ▶ Use BGP's Large Community Attribute to associate a prefix with a service
 - ▶ AS#:Function:Parameter
 - ▶ EX) 1:10:5 => From AS1, associate service 10, type 5
- ▶ Intra-domain Routing
 - ▶ SDN Controller used to match packet destination to a prefix
 - ▶ Prepends Segment Routing header to packet
 - ▶ Segment Routing used to guide packet through an AS
 - ▶ Ensures specified routers are passed

The Approach



Questions?

