CCIE DATA CENTER

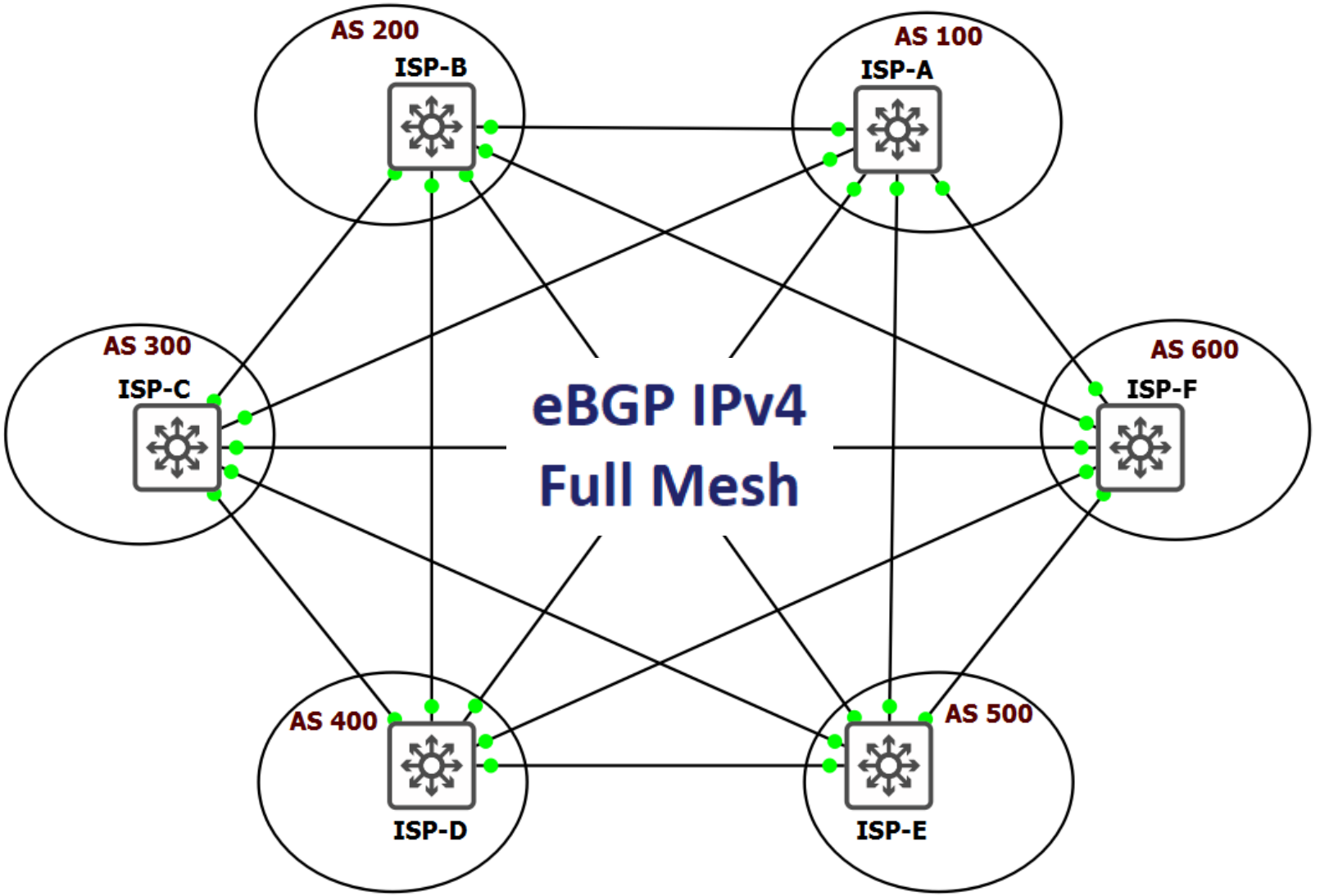
BGP

BGP Route Server

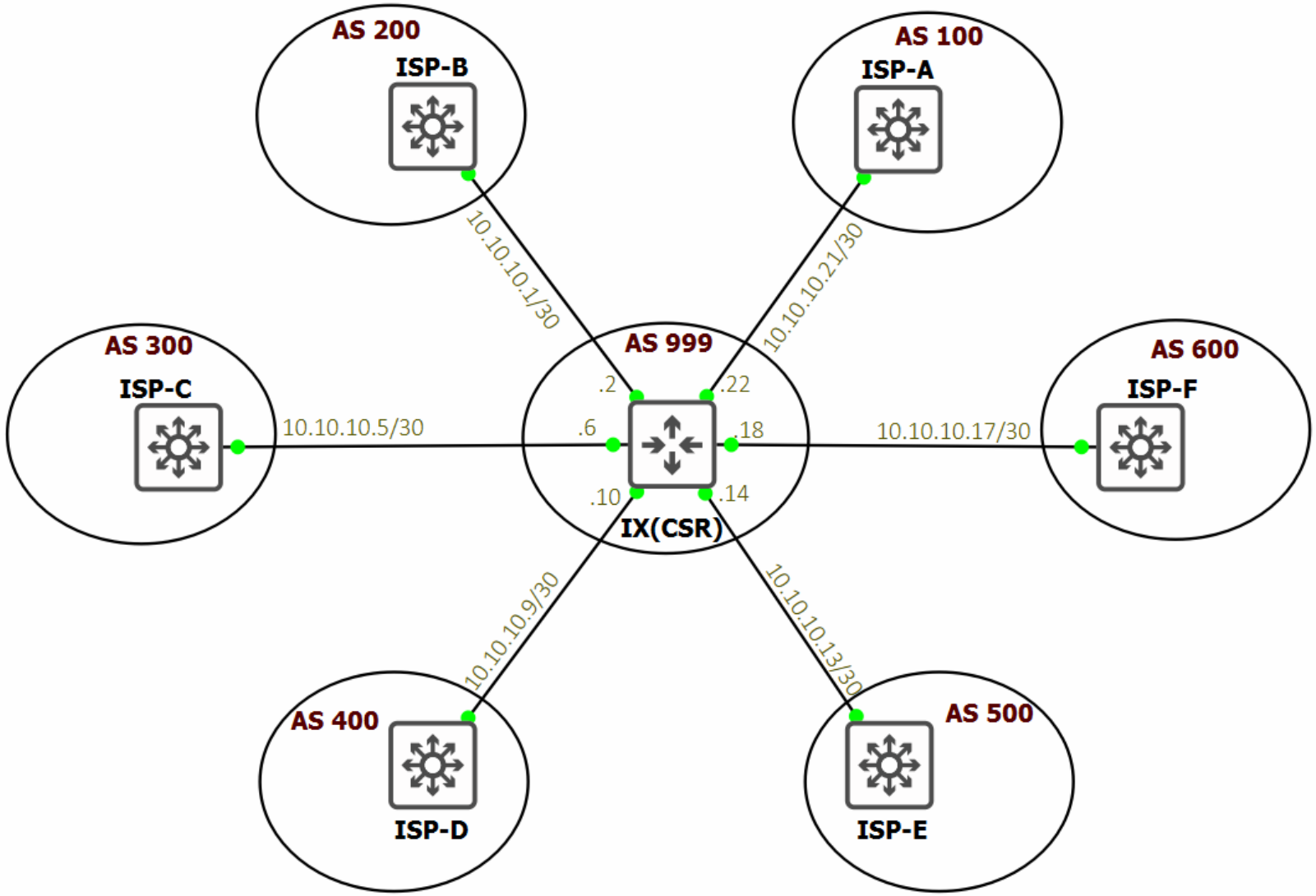
BGP Route Server Overview

- A **BGP route server** is basically an **eBGP route reflector** (not a BGP terminology) and performs the same route reflection function as an iBGP route reflector.
  - BGP route server provides an alternative option to full eBGP mesh peering between ASs.
  - Just like iBGP RR, it doesn't need to be in the data path to perform the route reflection.
- In datacenters BGP route server is commonly used in VXLAN EVPN multi-site deployments; However, in service provider networks, it is used to connect several internet exchange (IX) operators.
- The route server provides AS-path, MED, and next-hop transparency so that peering border routers (BGW) or ISPs at the IX still appear to be directly connected.
- A BGP route server provides the following benefits:
  - Reduce configuration complexity on each border router.
  - Reduce CPU and memory requirements on each border router.
  - Reduce operational overhead incurred by individualized peering agreements.
  - Allows the environment to scale well from control-plane peering and reduces the management burden of configuration and operation.

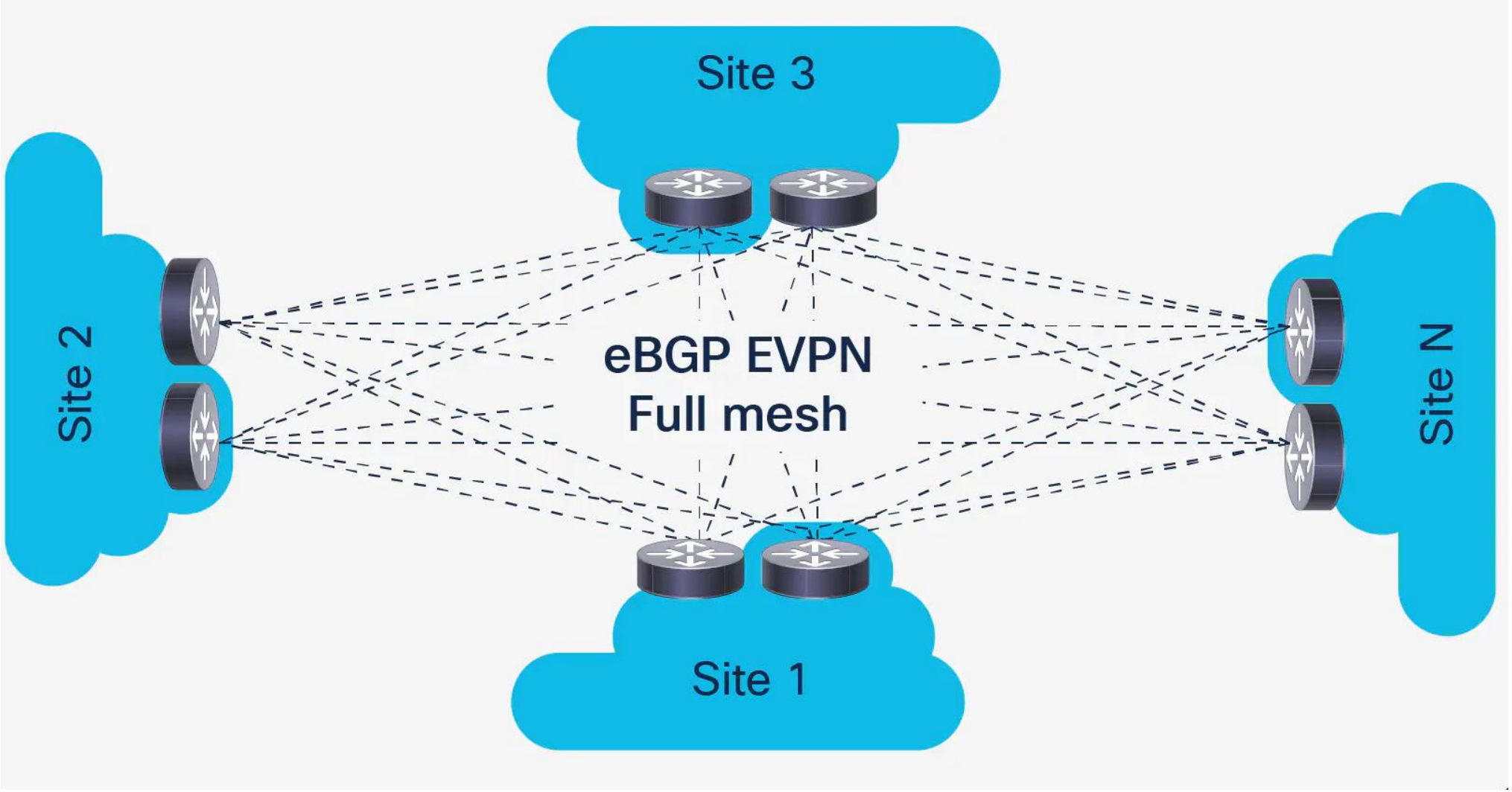
ISPs eBGP Full Mesh Design



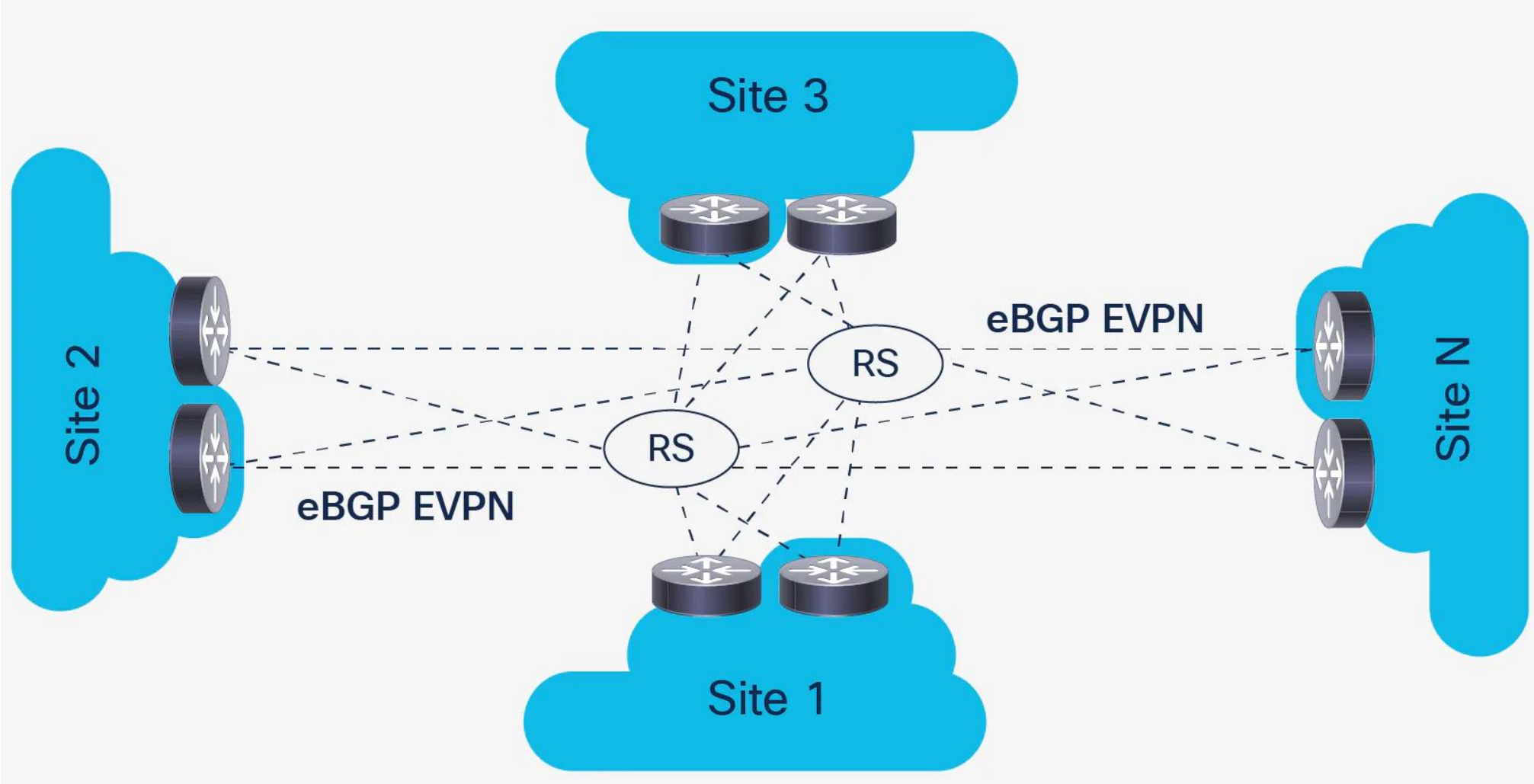
ISPs Route Server Design

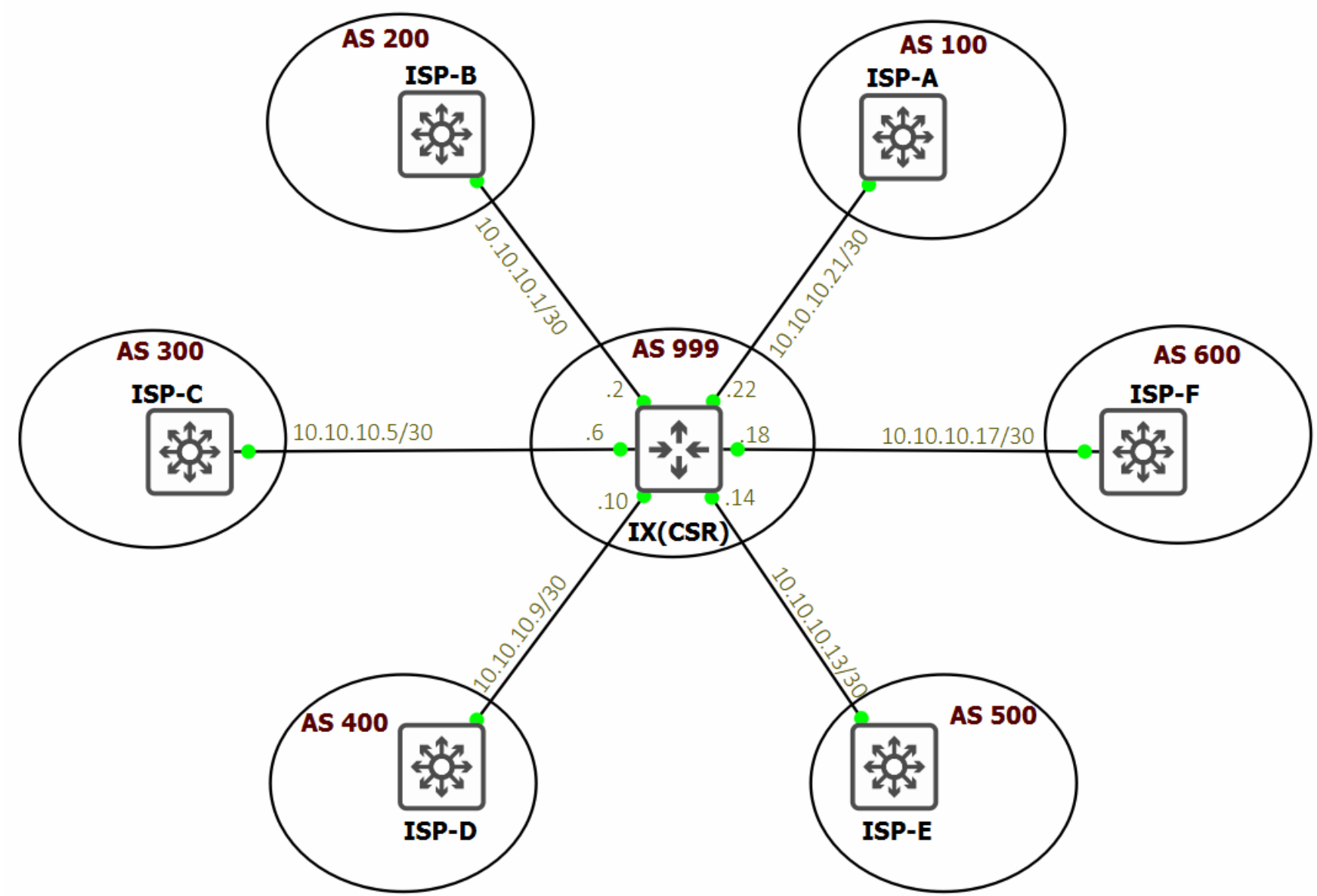


BGP Full Mesh Design in Multi-Site Datacenter



BGP Route Server Design in Multi-Site Datacenter

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AS 200
ISP-B
AS 100
ISP-A
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10.10.10.21/30
AS 300
ISP-C
AS 999
AS 600
ISP-F
.2
.22
.6
.18
10.10.10.5/30
10.10.10.17/30
.10
.14
IX(CSR)
10.10.10.9/30
10.10.10.13/30
AS 400
ISP-D
AS 500
ISP-E

Thanks for watching!


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