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This past week I have been learning about OSPF dynamic routing protocol. OSPFv2 is used with IPv4, while OSPFv3 is used with IPv6. OSPF is a classless routing protocol that supports variable length subnet masks, and CIDR, it also uses triggered updates and has fast convergence. OSPF uses a hierarchical system that groups routers into areas to support scalability and MD5 for authentication ensuring security; OSPF has an administrative distance of 110. OSPF has 3 main data structures: Adjacency Databases, Link-State Databases, and Forwarding Databases. The Adjacency Database, or Neighbor Table, keep information on routers with bidirectional communication and is unique to each router. The Link-State Database, or Topology Table, keeps track of information on all routers, and represents the network topology; is also identical on every router in the area. The Forwarding Database, or Routing Table, is a list of all routes generated by the SPF and is unique to each router. The primary OSPF packets used are Hello, Database description, Link-State Request, Link-State Update, and Link-State Acknowledgment. OSPF can be implemented either in the single area form or the multi-area form. Therefore, OSPF is most probably recommended for use in growing networks as it supports scalability. Overall, OSPF is a great option for growing networks, and I look forward to learning more about its implementation in varying network topologies.