

Design Concern	Flat OSPF/Single Area Design	Multi Area OSPF Design
Scalability	No, It is not scalable, in large scale OSPF design, any change on the Routers trigger Full SPF run	Yes, Change in one OSPF Area trigger Partial SPF run in another Area. Topology information is not sent between the OSPF Areas.
Working on Full Mesh topology	Yes but not scalable	Yes
Working on Hub and Spoke	Yes	Yes
Convergence	Better than Multi Area Design	ABR add additional latency (Processing delay) during convergence
Reachability Information	Yes, Inside an Area, all the routers have same Link State Database	Yes, by default all the prefixes are learned by every router in any OSPF Area. There is no automatic summarization.
Topology Information	Yes, Inside an Area, all the routers have same Link State Database	No, ABR stops topology information, one Area topology is not known by the other OSPF Area
Which LSAs are shown in the Link State Database	Type 1 and Type 2 (If there is external, then Type 5 and Type 7 as well)	Type 1, Type 2, Type 3 (If there is external, Type 4, Type 5 and Type 7 as well)
MPLS Traffic Engineering	Good, every router has same topology information : Which router is connected to which router, what is the metric between them and so on	Hard, it requires MPLS TE extension or Path Computation Element.
Troubleshooting	Easier than Multi Area OSPF design	More nodes, more LSAs make it harder to troubleshoot compare to Single Area/Flat OSPF design
Stuff Experience	Well known	Well known
IPv6 Support	Yes with OSPFv3	Yes with OSPFv3
Additional Nodes	None	ABR (Area Border Router)
QoS Support	Good, No difference	Good, No difference
Multicast Support	Good, No difference	Good, No difference
Resource Requirement	More, every router needs to keep both reachability and the topology information inside OSPF domain	Less, routers only keep topology information of their Area, but reachability information of the entire OSPF domain
IPv6 Support	Yes, it can be setup over IPv6 transport or it can carry IPv6 payload. So IPv6 over DMVPN and DMVPN over IPv6 both are possible	Yes
Can run over other VPN ?	Yes, it can run over GRE, MGRE and DMVPN	Yes, can be designed over GRE, Mgre, DMVPN. In Hub and Spoke topologies such as DMVPN, Spokes can be placed in Non-Backbone area