OSPF Terminologies:

Area:

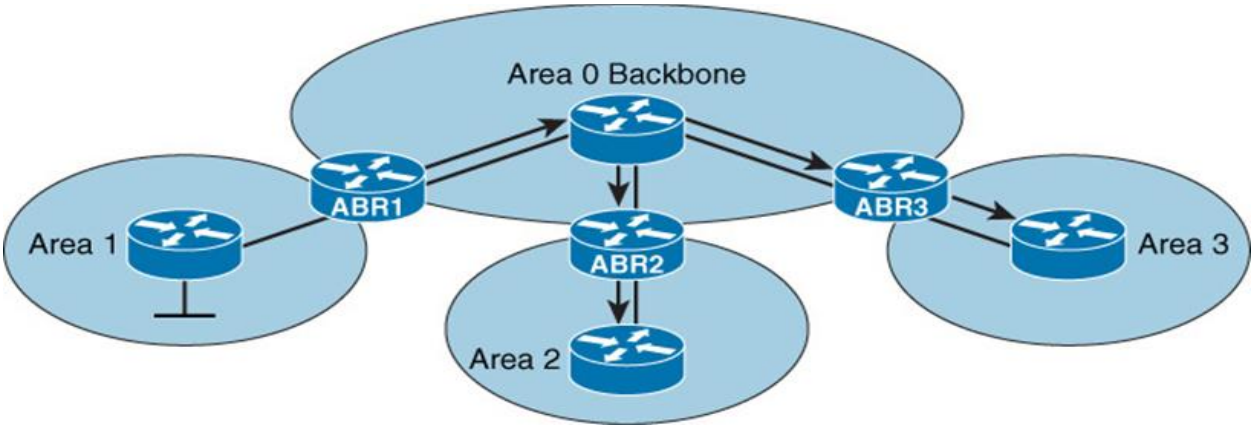
- In Open Shortest Path First (OSPF) dynamic protocol Area is like a Subnetting.
- It allows separating the large internetwork into smaller networks known as areas.
- OSPF implements two levels hierarchy with areas: backbone and area off backbone.

Backbone:

- In Open Shortest Path First Protocol Backbone is central point of this implementation.
- Routers running in this area required to maintain complete database of entire network.
- All areas In Open Shortest Path First (OSPF) Protocol is needed to connect with this area.

Area off Backbone:

- In Open Shortest Path First (OSPF), Area off backbone is the extension of the backbone.
- Routes running in this area required to maintain specific database instead of complete.
- In Open Shortest Path First (OSPF), protocol It will speed-up the convergence time.



Router ID:

- Every Router in Open Shortest Path First network, needs the unique OSPF Router ID.
- The OSPF Router ID is used to provide & give a unique identity to the OSPF Router.
- There are different ways in Open Shortest Path First protocol which it can be identified.
- The highest IP address of the active Physical interface of the router becomes the Router ID.
- If a logical interface is configured , then highest IP address of logical interface becomes RID.
- If specify the Router-ID manually then it takes priority over all and become the Router-ID.

Link:

- Link is an interface running Open Shortest Path First (OSPF) routing protocol.
- When we add an interface in OSPF process, it will be considered as a link.

State:

- In Open Shortest Path First (OSPF), State is the information associated with an interface.
- A link or Interface contains several information such as IP address, up/down status, subnet.
- A link also has subnet mask, type of interface, type of network , bandwidth and delay etc.
- Open Shortest Path First (OSPF) dynamic protocols consider this information as the state.

LSA:

- Link State Advertisement (LSA) is data packet, it contains Link-State & routing information.
- Open Shortest Path First dynamic protocol uses it to share & learn network information.

LSDB:

- Every Open Shortest Path First (OSPF) router maintains a Link State Database (LSDB).
- Link State Database (LSDB) is collection of all Link State Advertisement received by router.
- Every LSA has unique sequence number, OSPF stores LSA in LADB with sequence number.

Internal Router:

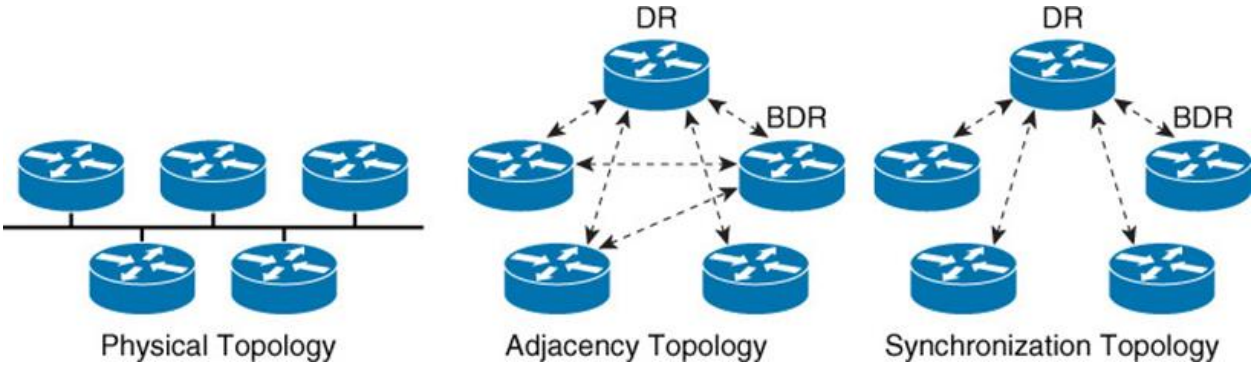
- It is a router that has only OSPF neighbor relationships with routers in the same area.
- In Open Shortest Path First (OSPF) Internal Router has all of its interfaces in single area.

Backbone Router:

- The area 0 is known as backbone area & routers in area 0 are known as backbone routers.

Designated Router (DR) and Backup Designated Router (BDR):

- Designated Router is router interface elected among all routers on network segment.
- And Backup designated (BDR) is a backup for the Designated Router (DR) in OSPF.
- DRs are used for reducing network traffic by providing a source for routing updates.
- The Designated Router (DR) maintains a complete topology table of the network.
- The Designated Router (DR) sends the updates to the other routers via multicast.
- All routers in an area will form slave/master relationship with Designated Router (DR).



Router Priority:

- It is used to determine who will become Designated or Backup Designated Router.
- In Open Shortest Path First (OSPF) Dynamic Protocols The default priority is one (1).
- In Open Shortest Path First (OSPF) Router Priority, value range is between 0 to 255.
- The range of priority values that allow a router to be a candidate are 1 to through 255.
- A priority setting of (0) zero means that the router does not participate in the election.
- Changing the priority setting to zero (0) means router can never become the DR or BDR.

Area Border Router (ABR):

- ABR is router that connects one or more OSPF areas to the main backbone network.
- Area Border Router (ABR) is considered a member of all areas it is connected to.

Autonomous System Boundary Router (ASBR):

- If it is one interface is in OSPF Domain & other interface in any other routing protocol.
- It requires redistribution in order to make router as Autonomous System Boundary Router.
- To check the Autonomous System Boundary Router run the command: show ip protocols.