

# OSPF Multi-Area Routing

(Minimize the number of LSA advertisements into an area)

An area's topology is **invisible** to entities outside the area.

By keeping area topologies separate, OSPF passes less routing traffic than it would if the AS were not partitioned.

Area partitioning creates two different types of OSPF routing, depending on whether the source and the destination are in the same or different areas. **Intra-area routing** occurs when the source and destination are in the same area; **interarea routing** occurs when they are in different areas.

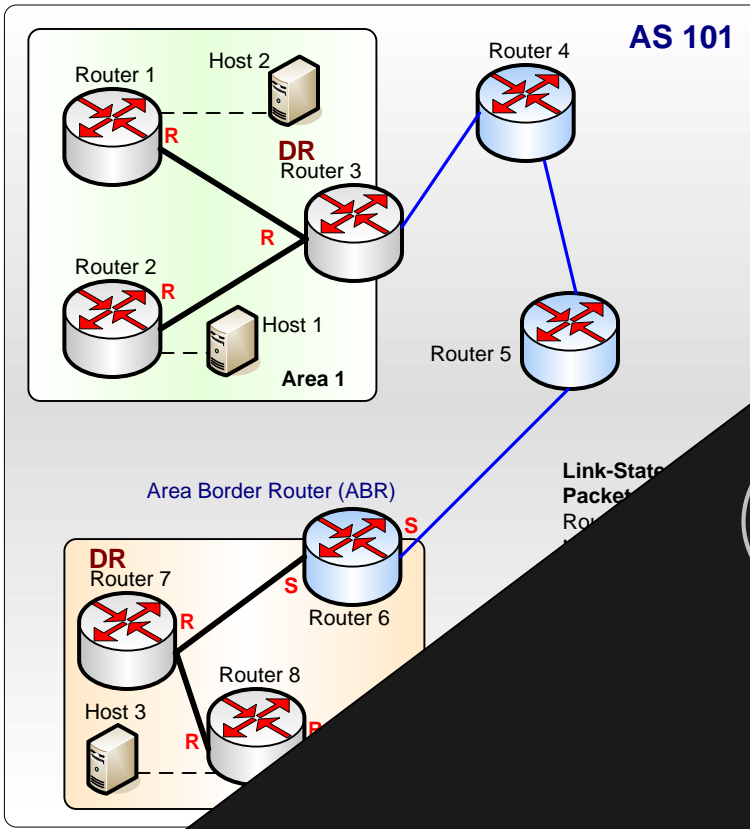
An **OSPF backbone** is responsible for distributing routing information between areas. It consists of all Area Border Routers (ABRs) in the AS, and their attached routers.

```
interface s0
ip address 172.16.11.71 255.255.255.0
```

```
interface Ethernet0
ip address 192.168.12.1 255.255.255.0
```

```
router ospf 101
network 172.16.0.0 0.0.255.255
network 198.168.0.0 0.0.255.255
```

OSPF autonomous system (AS) – Multiple Areas linked by routers



OSPF has special restrictions when multiple areas are configured, one of these areas has to be the backbone. When designing networks it is good practice to have the backbone later on.

The backbone has to be at the center of the network. It is connected to the backbone. It is responsible for distributing routing information into the other areas. It is responsible for distributing routing information into other areas.

In some rare cases, the backbone is not connected to the backbone. The path to the backbone is not complete.

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