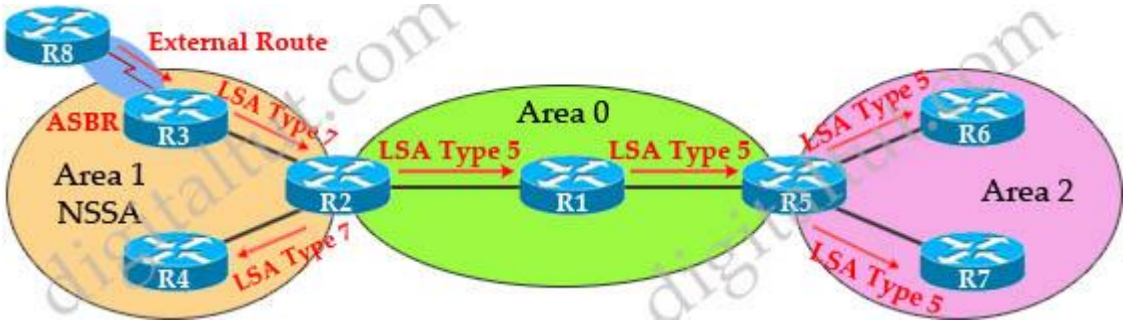
NSSA-ONLY P bit

When external routing information is imported into an NSSA, LSA Type 7 is generated by the ASBR and it is flooded within that area only.

To further distribute the external information, type 7 LSA is translated into type 5 LSA at the NSSA border.

The **P-bit** in LSA Type 7 field indicates whether the type 7 LSA should be translated. This P-bit is automatically set by the NSSA ABR (also the Forwarding Address (FA) is copied from Type 7 LSA). The P-bit is not set only when the NSSA ASBR and NSSA ABR are the same router for the area . If bit P = 0, then the NSSA ABR must not translate this LSA into Type 5.



The **nssa-only** keyword instructs the device to **instigate** Type-7 LSA with cleared P-bit, thereby, preventing LSA translation to Type 5 on NSSA ABR device.

Note: If a router is attached to another AS and is also an NSSA ABR, it may originate a both a type-5 and a type-7 LSA for the same network. The type-5 LSA will be flooded to the backbone and the type-7 will be flooded into the NSSA. If this is the case, the P-bit must be reset (P=0) in the type-7 LSA so the type-7 LSA isn't again translated into a type-5 LSA by another NSSA ABR.

Example configuration

router ospf 10
router-id 1.1.1.1
area 110 nssa
summary-address 192.168.0.0 255.255.0.0 **nssa-only**
redistribute static metric-type 1 subnets tag 10
network 110.110.0.0 0.0.255.255 area 110

- The ABR clears the P bit in the header of the type 7 LSA for 192.168.0.0/16.