Title:
Cisco CCNP / BSCI Tutorial: The Role Of The OSPF ASBR

Word Count:
313

Summary:
To pass the BSCI and earn your CCNP, you've got to know the many details of
OSPF. Learn the vital details regarding ASBR configuration from Chris Bryant,
CCIE #12933.

Keywords:
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Article Body:
To pass the BSCI exam and earn your CCNP certification, you've got to master the
(many) details of OSPF. You might have thought there were quite a few OSPF
details in your CCNA studies, but you'll now build on that foundation on the way
to earning your CCNP.

One such detail is the role of the Autonomous System Border Router (ASBR) in
OSPF. The name itself raises some eyebrows, since you learned in your CCNA
studies that OSPF doesn't use autonomous systems! Just as an OSPF Area Border
Router borders multiple OSPF areas, the ASBR borders the entire OSPF domain and
another source of routes. This can be another dynamic routing protocol, or
directly connected networks that are not being advertised into OSPF by the
network command.

Let's say we have a router running both OSPF and RIP version 2. By default, the
RIP process will not contain any OSPF-discovered routes, and vice versa. The two
separate routing processes are just that - separate. If we want the other OSPF
routers to know about the RIP routes, route redistribution must be configured.
When the RIP routes are redistributed into OSPF, that router is then an ASBR.

In the below example, RIP subnets have been redistributed into OSPF. A seed
metric is not necessary when redistributing routes into OSPF. The command "show
ip ospf" confirms that this router is now an ASBR.

R1(config)#router ospf 1

R1(config-router)#redistribute rip subnets

R1#show ip ospf

Routing Process "ospf 1" with ID 1.1.1.1

Supports only single TOS(TOS0) routes

Supports opaque LSA

It is an autonomous system boundary router

The ASBR can also perform route summarization on the routes being injected into OSPF with the summary-address command. (To configure OSPF inter-area summarization, use the area range command.) By mastering route summarization and route redistribution, you're well on your way to passing the BSCI exam and earning your CCNP certification!