

BGP Path Selection and Configuration for Cisco's ENCOR (350-401) Exam

by Kevin Wallace Training, LLC

Path Selection Parameter	Description
Weight	A locally significant, Cisco-specific parameter that a router can set when receiving updates. A higher Weight is preferred. Commonly used to influence outbound routing decisions.
Local Preference	A parameter communicated throughout a single AS. A higher Local Preference is preferred. Commonly used to influence outbound routing decisions.
Originate	Paths sourced locally are preferred.
AS Path Length	The number of autonomous systems in the AS_PATH path attribute. Lower AS path lengths are preferred.
Origin Type	Indicates how the route was injected into BGP: i (network command), e (EGP), or ? (redistributed). i is preferred to e , and e is preferred to ? .
Multi-Exit Discriminator (MED)	A parameter set and advertised by routers in one AS to influence the BGP path selection decisions of routers in another AS. A lower MED is preferred.
Paths	Prefer eBGP path over iBGP path.
Router ID	A tie breaker, where the route received from the router with the lowest router ID is preferred.

Weight
Local Preference
Originate
AS Path Length
Origin Type
Multi-Exit Discriminator (MED)
Paths
Router ID

We Love Oranges AS
Oranges Mean Pure
Refreshment



BGP Path Selection

(3) Oranges (6) Mean (8) Refreshment (2) Love (1) We (4) AS (5) Oranges

```

R3#show ip bgp
BGP table version is 8, local router ID is 3.3.3.3
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
               r RIB-failure, S Stale, m multipath, b backup-path, f RT-Filter,
               x best-external, a additional-path, c RIB-compressed,
Origin codes: i - IGP, e - EGP, ? - incomplete
RPKI validation codes: V valid, I invalid, N Not found

```

Network	Next Hop	Metric	LocPrf	Weight	Path
*> 5.5.5.0/24	198.51.100.2			0	65002 65003 i
* 198.51.100.6	198.51.100.6			0	65004 65003 i
*> 10.1.1.0/24	0.0.0.0	0		32768	i
* i 10.1.1.2	10.1.1.2	0	100	0	i
*> i 172.16.1.0/24	10.1.1.2	0	100	0	i
r 198.51.100.0/30	198.51.100.2	0		0	65002 i
r 198.51.100.4/30	198.51.100.2	0		0	65002 65003 65004 i
r> 198.51.100.6	198.51.100.6	0		0	65004 i
*> 203.0.113.0/30	198.51.100.2	0		0	65002 i
* 198.51.100.6	198.51.100.6	0		0	65004 65003 i
* 203.0.113.4/30	198.51.100.2	0		0	65002 65003 i
*> 198.51.100.6	198.51.100.6	0		0	65004 i

R3#

(7) Pure

R1:

R1#conf term

R1(config)#router bgp 64500

R1(config-router)#neighbor 198.51.100.2 remote-as 64495

R1(config-router)#network 192.0.2.0 mask 255.255.255.0

R1(config-router)#end

R1#

R2:

R1#conf term

R1(config)#router bgp 64495

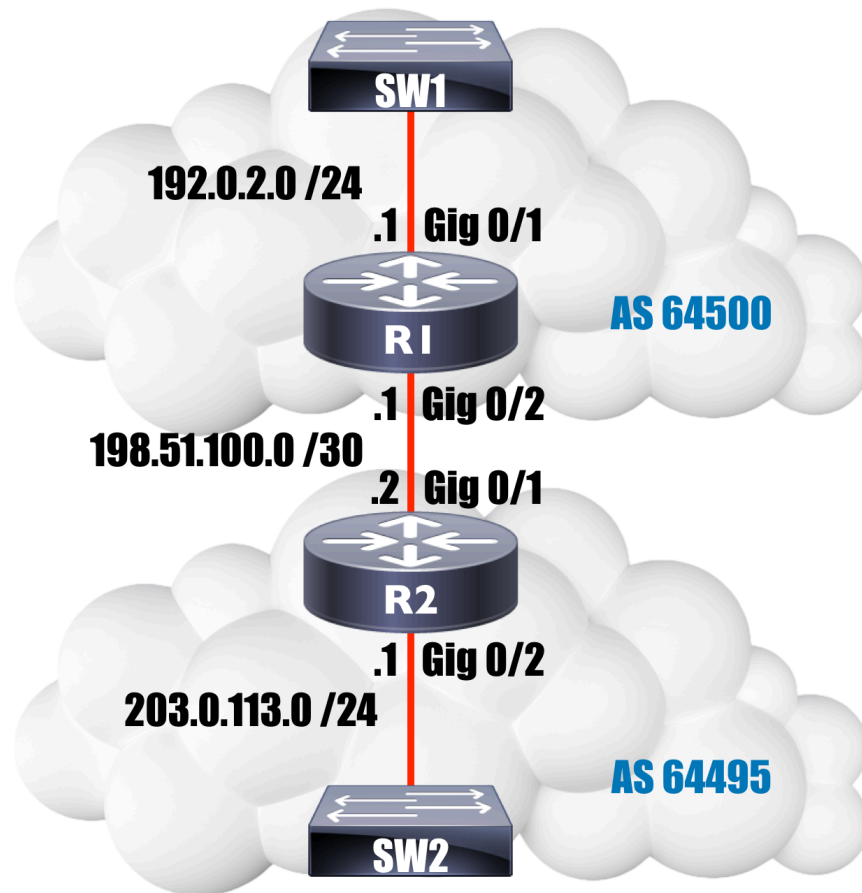
R1(config-router)#neighbor 198.51.100.1 remote-as 64500

R1(config-router)#network 203.0.113.0 mask 255.255.255.0

R1(config-router)#end

R1#show ip route

R1#show ip bgp



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