

Consider only routes with no AS loops and a valid next hop.

Use Longest Prefix Match.

Where multiple routes are available to identical network and prefix:

- Prefer highest weight (local to router).
- Prefer highest local preference (global within AS).
- Prefer route originated by the local router ('network' command or redistribution).
- Prefer shortest AS path.
- Prefer lowest origin code: IGP ('network') < EGP (legacy) < incomplete (redistributed).
- Prefer lowest MED (exchanged between autonomous systems).
- Prefer EBGP path over IBGP path.
- Prefer the path through the closest IGP neighbor.
- Prefer oldest route for EBGP paths.
- Prefer the path with the lowest neighbor BGP router ID.
- Prefer the path with the lowest neighbor IP address.

Origin



- The Origin path attribute describes how the route was learned by BGP
 - i (IGP): via the 'network' command or route aggregation (summarization) within BGP
 - ? (Unknown or Incomplete): redistributed into BGP, unknown or incomplete
 - e (External): from the legacy EGP routing protocol (was used when transitioning from EGP to BGP and is now obsolete)

Origin



```
R1#sh ip bgp
```

```
BGP table version is 11, local router ID is 192.168.0.3
```

```
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,  
t secondary path,
```

```
Origin codes: i - IGP, e - EGP, ? - incomplete
```

```
RPKI validation codes: V valid, I invalid, N Not found
```

	Network	Next Hop	Metric	LocPrf	Weight	Path
*	192.0.2.0	209.165.201.129			0 65003 65002 65011	i
*>		198.51.100.5			0 65001 65011	i ('network' command)
r>	192.168.1.2/32	209.165.201.129	0		0 65003 ?	(Loopback removed from config)
*>	198.51.100.0	209.165.201.129	0		0 65003 ?	(Redistributed)
*>	203.0.113.0	0.0.0.0	0		32768	i