

# *Knowledge Card*

## *BGP – Routing Algorithm*

*Where  
networks  
meet*



# BGP – Routing Algorithm\*

\*According to RFC4271 – Implementations are vendor-specific

1. Check if *next hop* is reachable
- 2. Choose route with the highest **Local Preference**
- 3. Prefer the route with the shortest **AS path**
4. Prefer the route with the lowest *origin attribute*
- 5. Prefer the route with the lowest **MED** value
6. Prefer routes received from *eBGP* over *iBGP*
7. Prefer the nearest *exit* from your network  
(in terms of your internal routing protocol)
- 8. **Implementation dependent:**  
**Prefer older (= more stable) routes**
9. Prefer routes learned from the router with lower *router ID*
10. Prefer routes learned from the router with lower *IP address*

This is where  
you prefer peering  
over upstream

Next hop reachable?	continue if “yes”
<b>Local Preference</b>	<b>higher wins</b>
AS path	shorter wins
Origin Type	IGP over EGP over incomplete
MED	lower wins
eBGP, iBGP	eBGP wins
Network exit	nearest wins
Age of route	older wins
Router ID	lower wins
Neighbor IP	lower wins

→ = most important rules

Version 1.0