The BGP speaker

- The AS’s administrator picks at least one node as a “BGP speaker”.
  - The speakers are not necessarily the BRs (border routers).
  - But each BR must have layer-2 connectivity with a speaker
    - so they don’t need routing to speak to each other
    - the common practice is that each BR is also a speaker
- If two ASs are BGP neighbors, namely they have connected BRs, then
  the speakers of these BRs maintain BGP association over TCP
- Example (assuming each BR is the speaker of itself)

If two ASs are BGP neighbors, namely they have connected BRs, then the speakers of these BRs maintain BGP association over TCP.

The BGP speaker (cont.)

- All the speakers of the same AS must maintain i-BGP association with each other in two possible ways:
  - Full mesh: each speaker has i-BGP over TCP relationship with each other
  - Hub-and-Spoke: each speaker has i-BGP over TCP relationship with one “central” speaker
- The speaker advertises (to outside) reachability information for all the subnets within that AS.
- A speaker of a transit AS also advertises subnets that can be reached through this AS.
- Only incremental updates are exchanged between speakers.
- Since each AS may run its own interior routing protocol, with its own metric, it is impossible to calculate a meaningful inter-AS path cost
  - Hence - only reachability is advertised.