BGP Inter-AS Cost

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The problem

- Traffic engineering incoming traffic is hard
- only AS path [length] is communicated to traffic sources
- can manipulate AS path length, but not granular enough
- So we need something new
What if we add a new inter-AS metric?
How common is tie breaker dependence?

• Got tables from Route Views for ASes 2914, 3549, 701 3356, 3561, 7018

• For each combination of two, compare AS path lengths for each prefix

• Equal for 129k to 186k of ~266k prefixes
  • (48 to 70%)
The draft

- Conceptually:
  - new attribute: Inter-AS Cost
  - increase by 2 to 256 per AS hop
    - default: +16
  - replace AS path length comparison with IAC comparison
- Some stuff for backward compatibility and incremental deployment (read the draft...
But:

• Other ways to do this!

• For instance:
  • attribute that is initialized by source
  • remains unmodified in transit,
  • comes after AS path length comparison

• Or insert elsewhere in tie breakers
The tie breakers

a. AS_PATH length
b. ORIGIN
c. MULTI_EXIT_DISC
d. eBGP over iBGP
e. Interior cost
f. BGP identifier
g. Neighbor address
Questions, remarks, complaints?