

BGP Inter-AS Cost

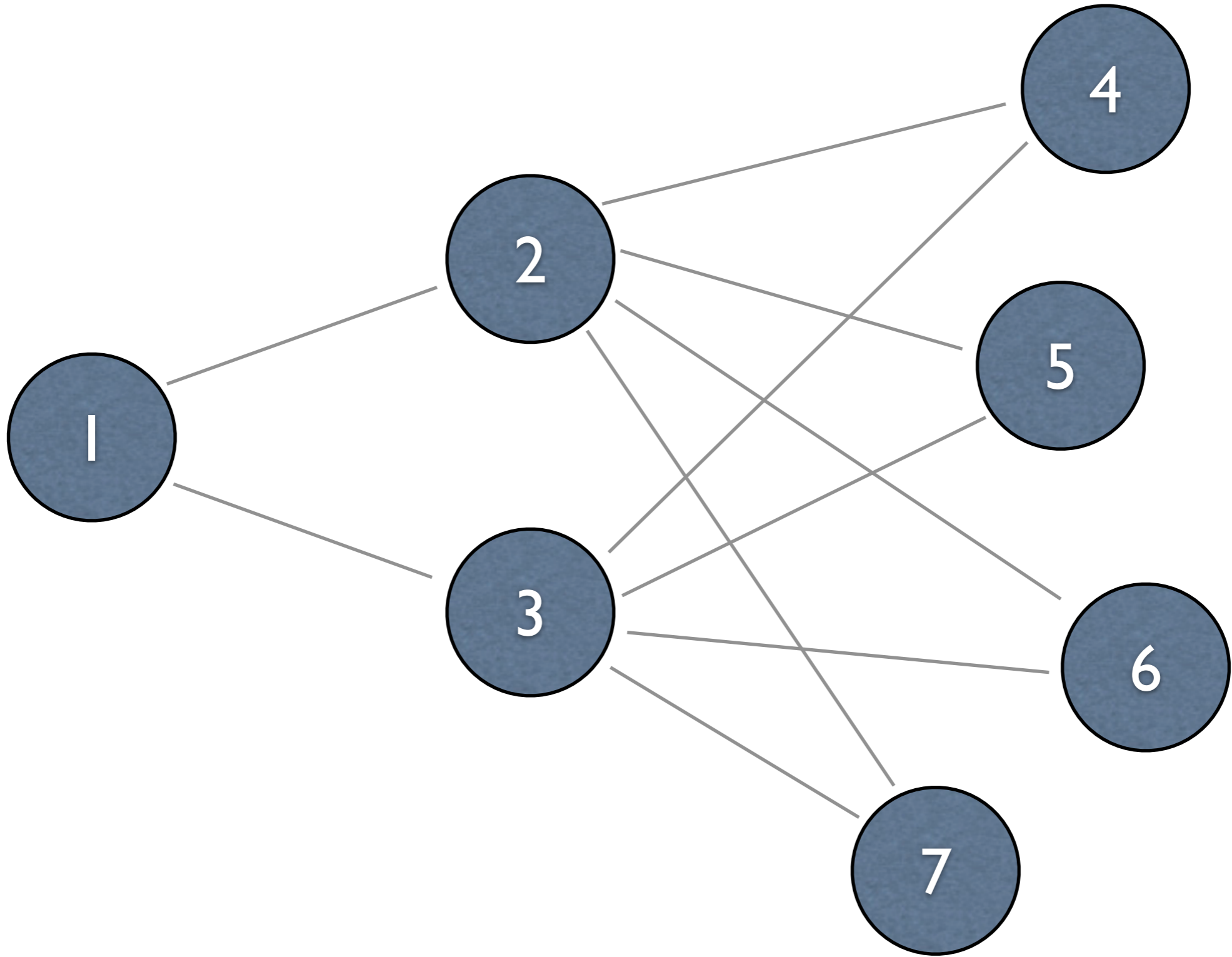
draft-van-beijnum-idr-iac-01

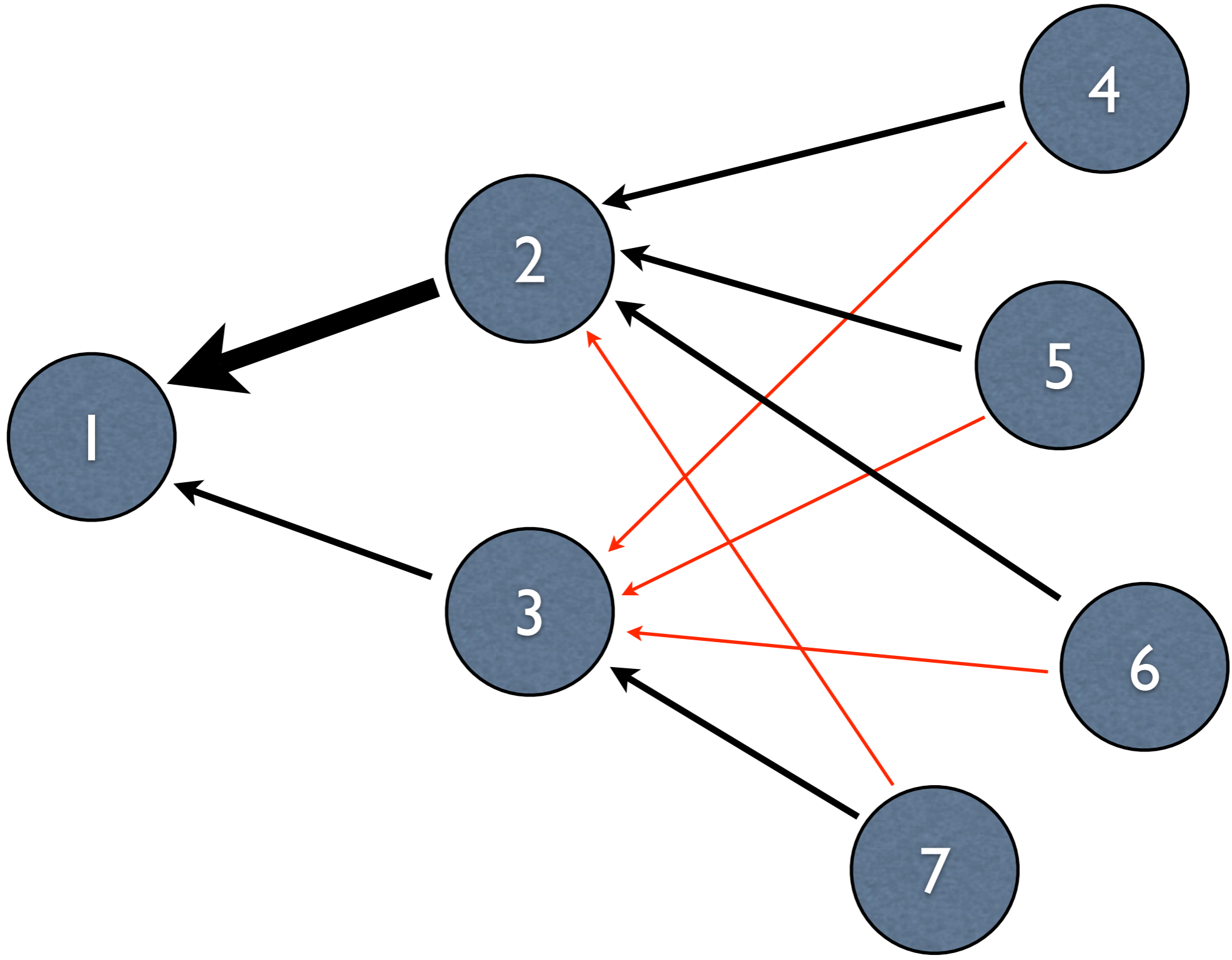
IETF-73 Minneapolis, nov 2008

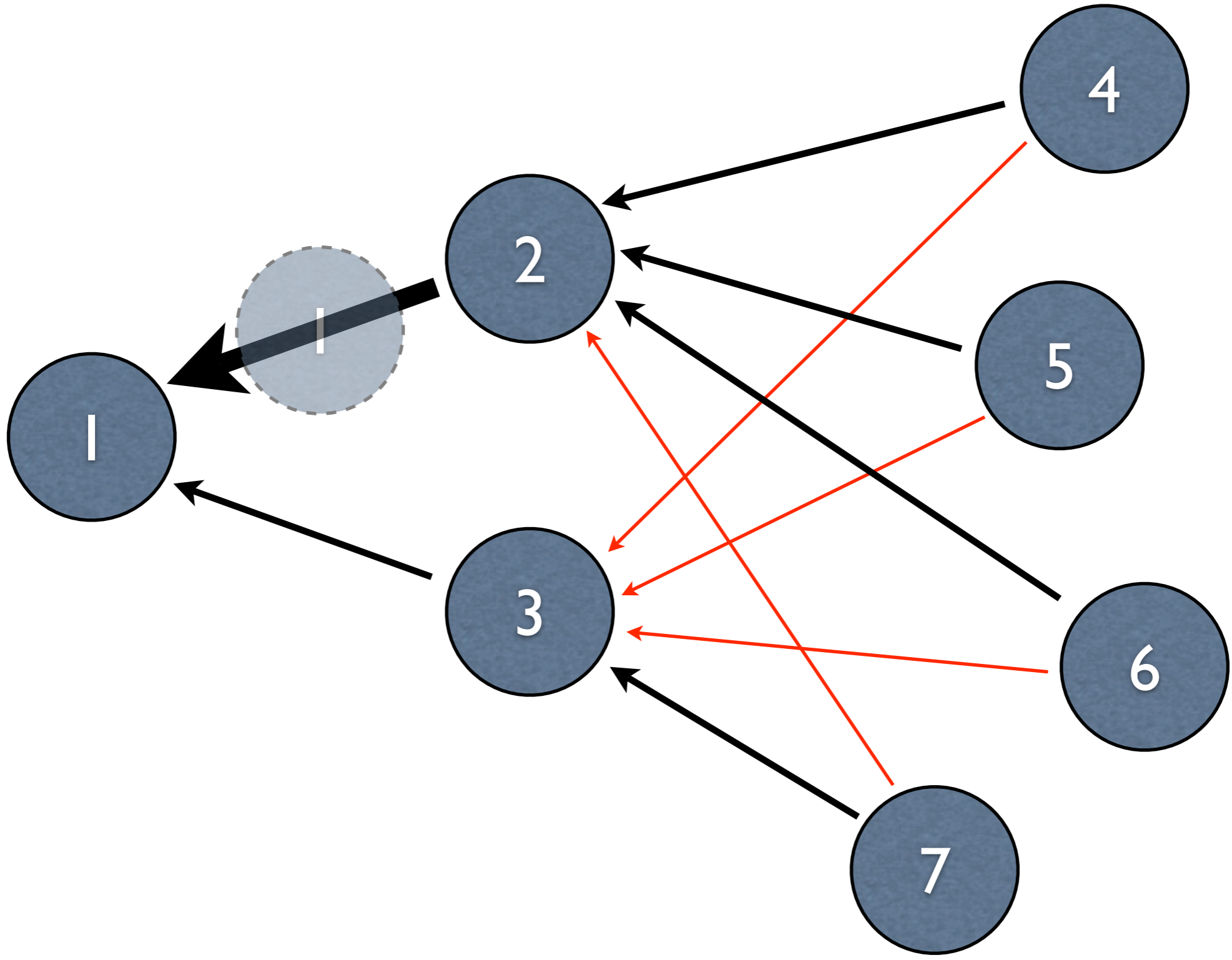
Ijitsch van Beijnum

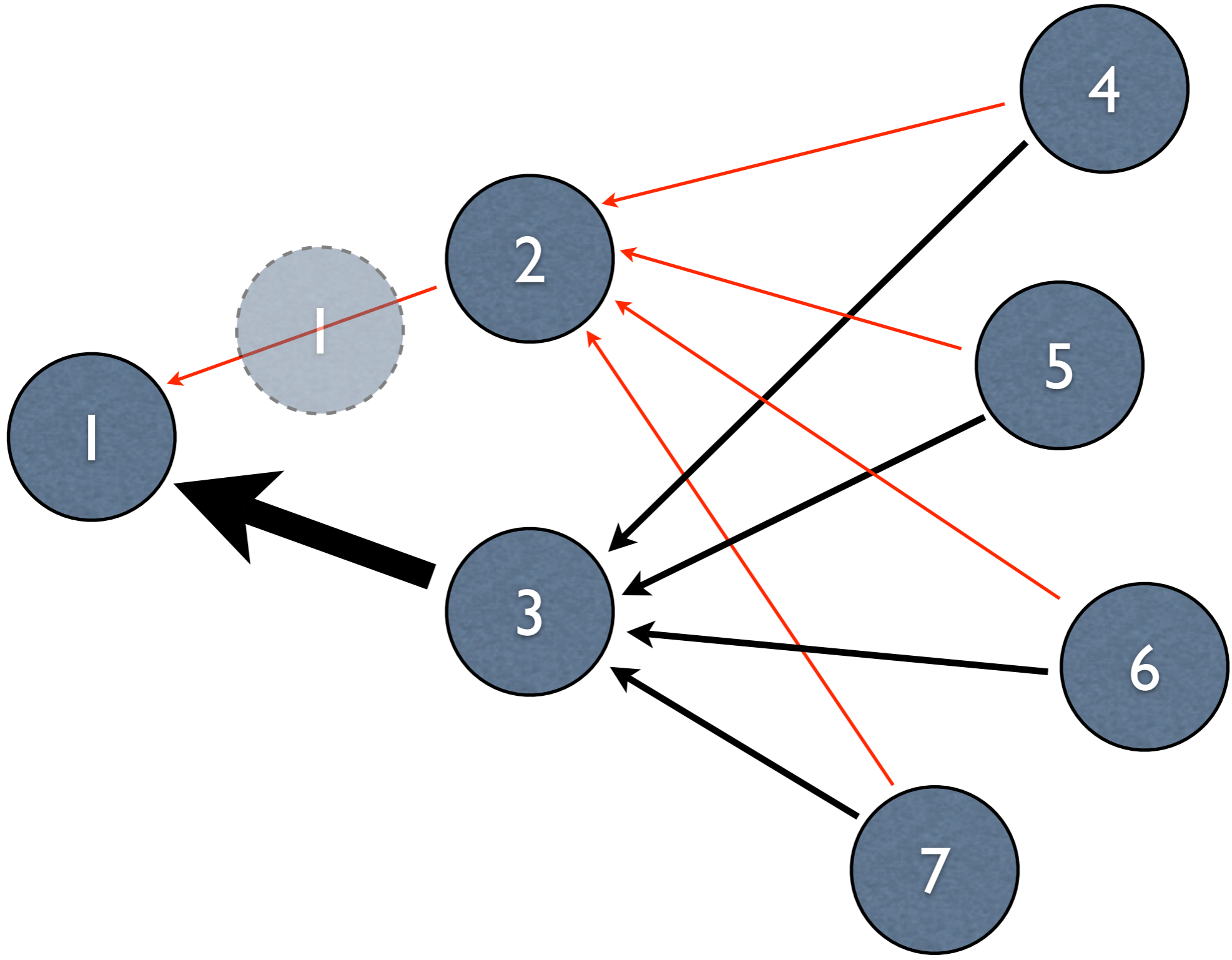
The problem

- 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

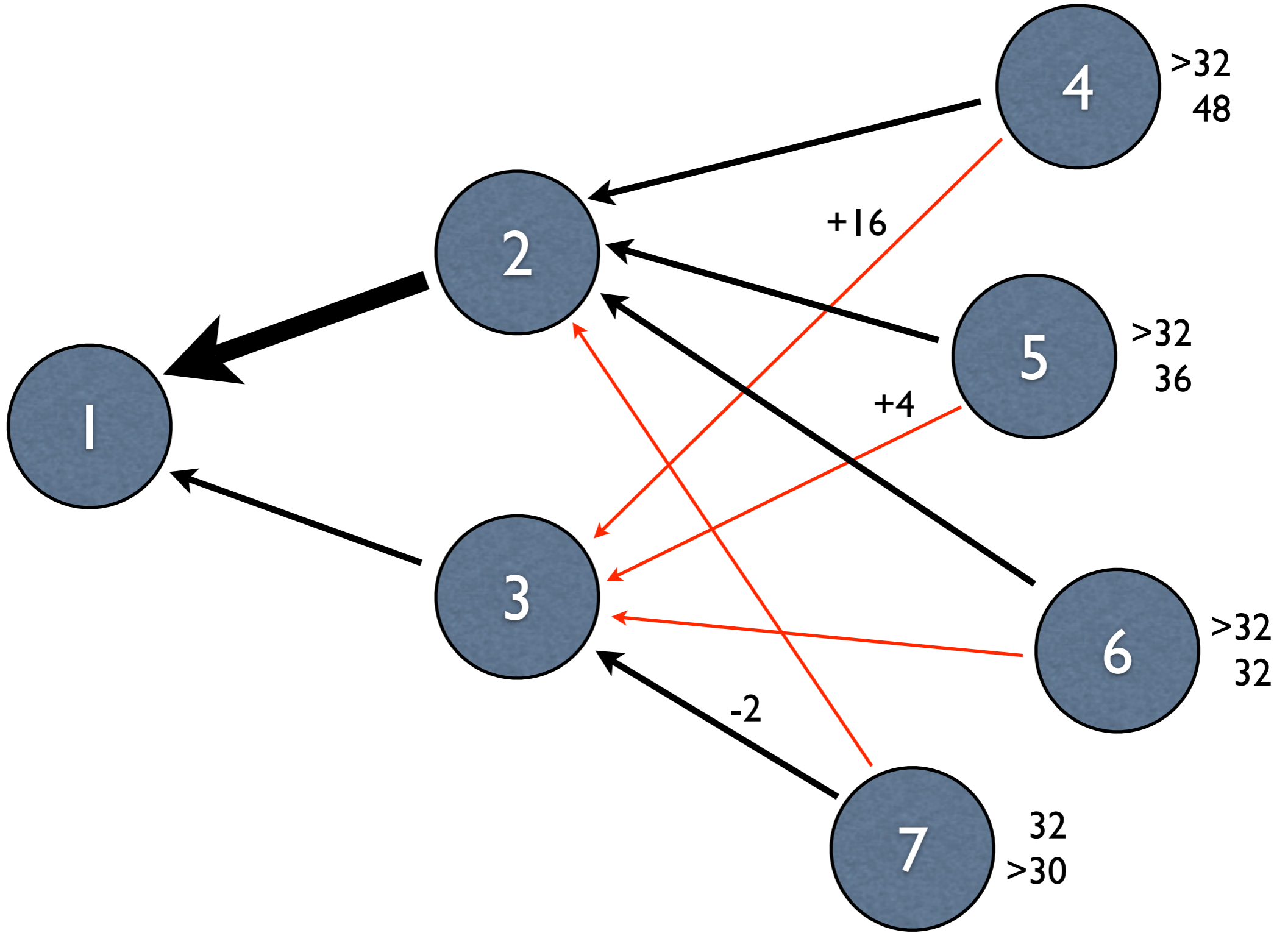


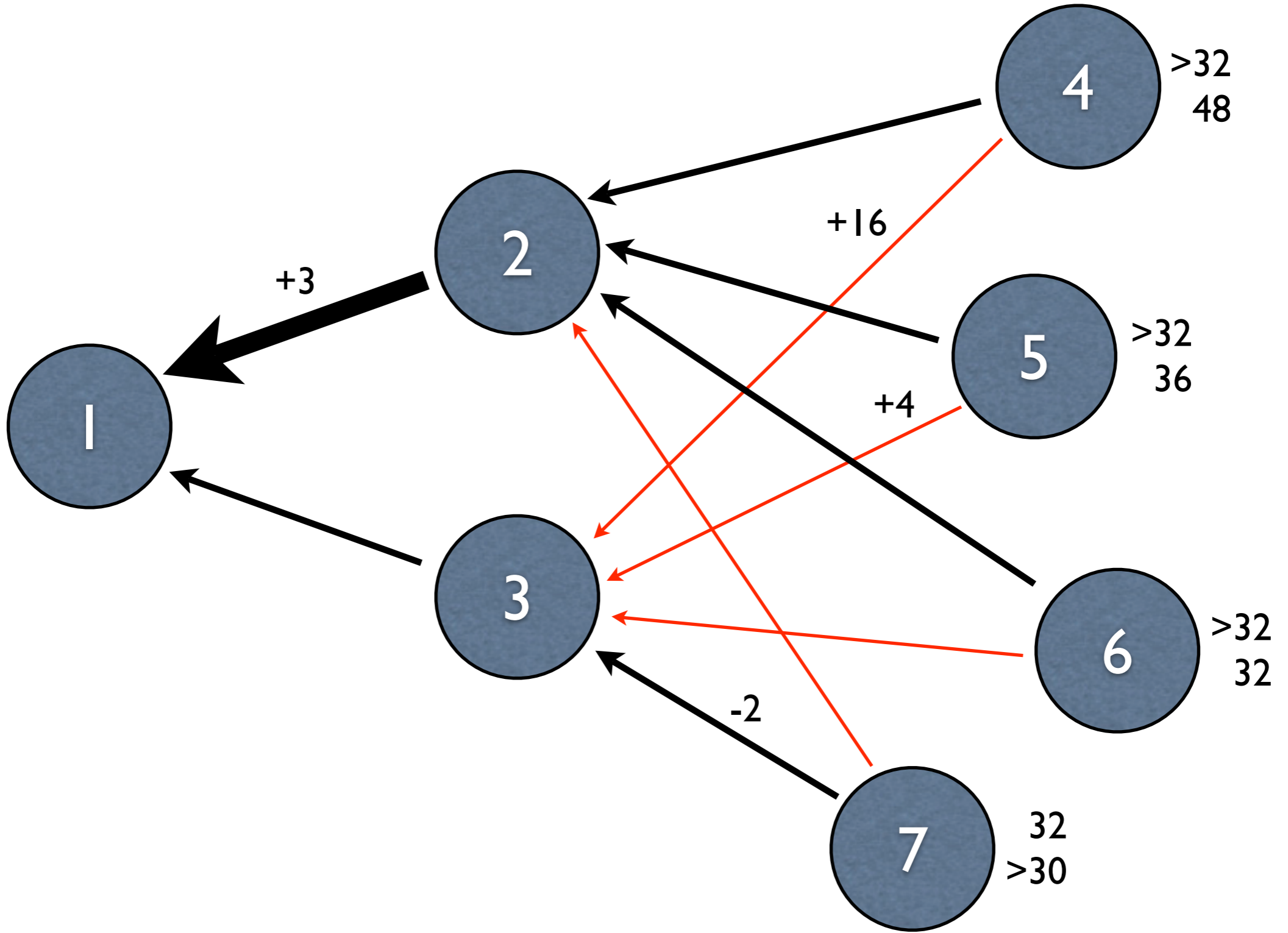


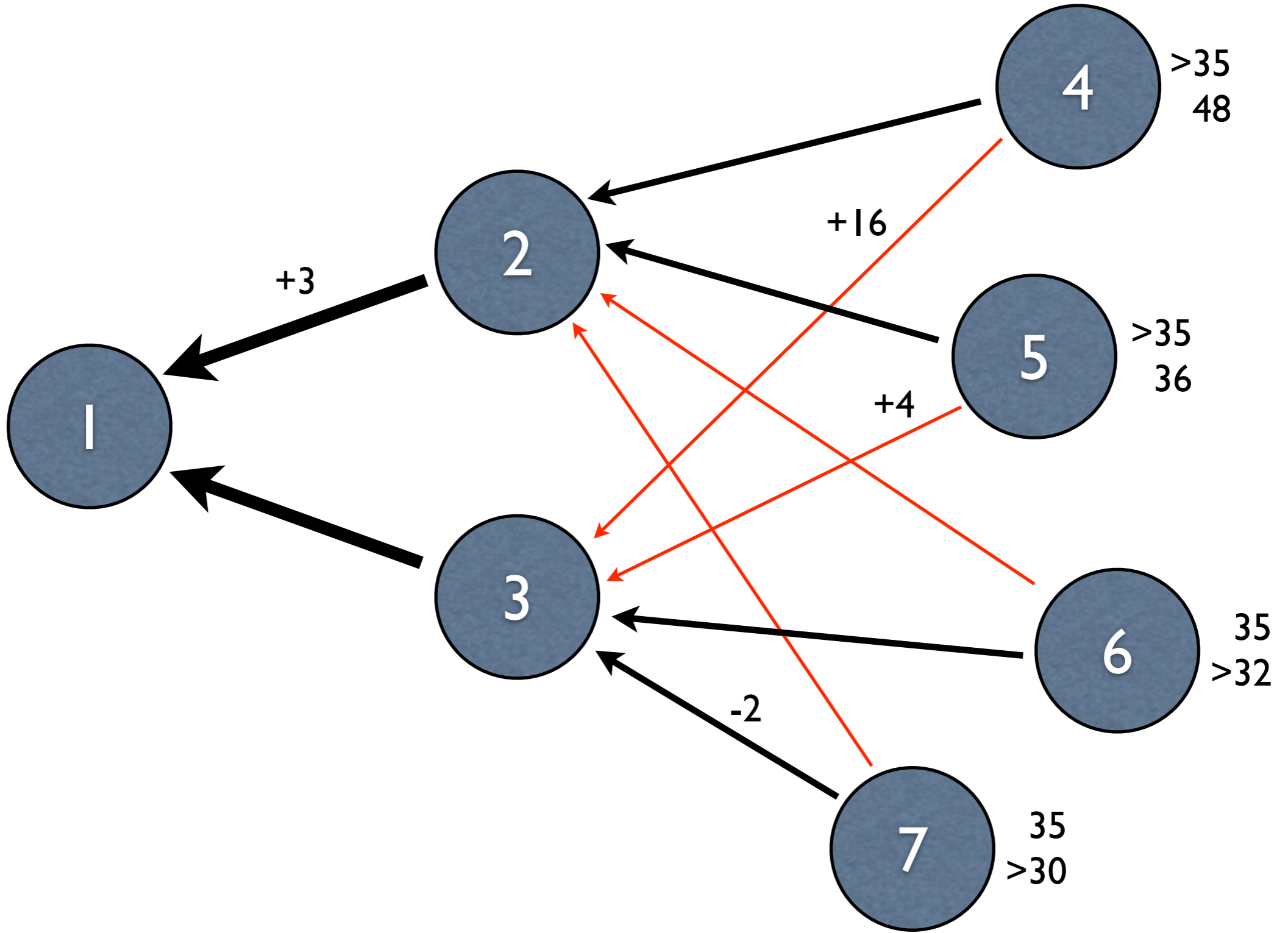




**What if we add a new
inter-AS metric?**







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?**