

0.1 It takes Two to Tango, and Three to Party

Because a single link between Alice and Bob can be causally disconnected by real-world, permanent or intermittent failures, an alternative: statistically-independent-failure-path is necessary, to recover from LINK Failures. This is the heart of the \mathcal{AE} ATOMICITY claim: A local (one hop LINK) TRIANGLE is the minimum necessary. See TRIANGLE Clocks later in this specification.

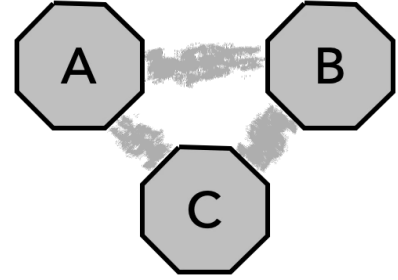


Figure 1: It takes three to party. Links need an alternate path. This won't work over a Switched (Clos) Network.

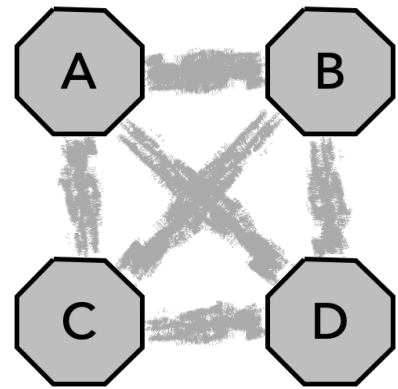


Figure 2: $2 \times 2 = 4$ connected nodes with 6 flakey LINKs. Any one of which may be working in both directions: {11}, only one direction: {01} or {10}, or *not*-working in *both* directions: {11}. For 4 nodes, there are $\frac{n(n-1)}{2} = 6$. With 4 *reliability configurations* on each LINK {00, 01, 10, 11} This gives us ONE correct (all links working correctly) and $4^6 - 1 = 4095$ possible failure modes.