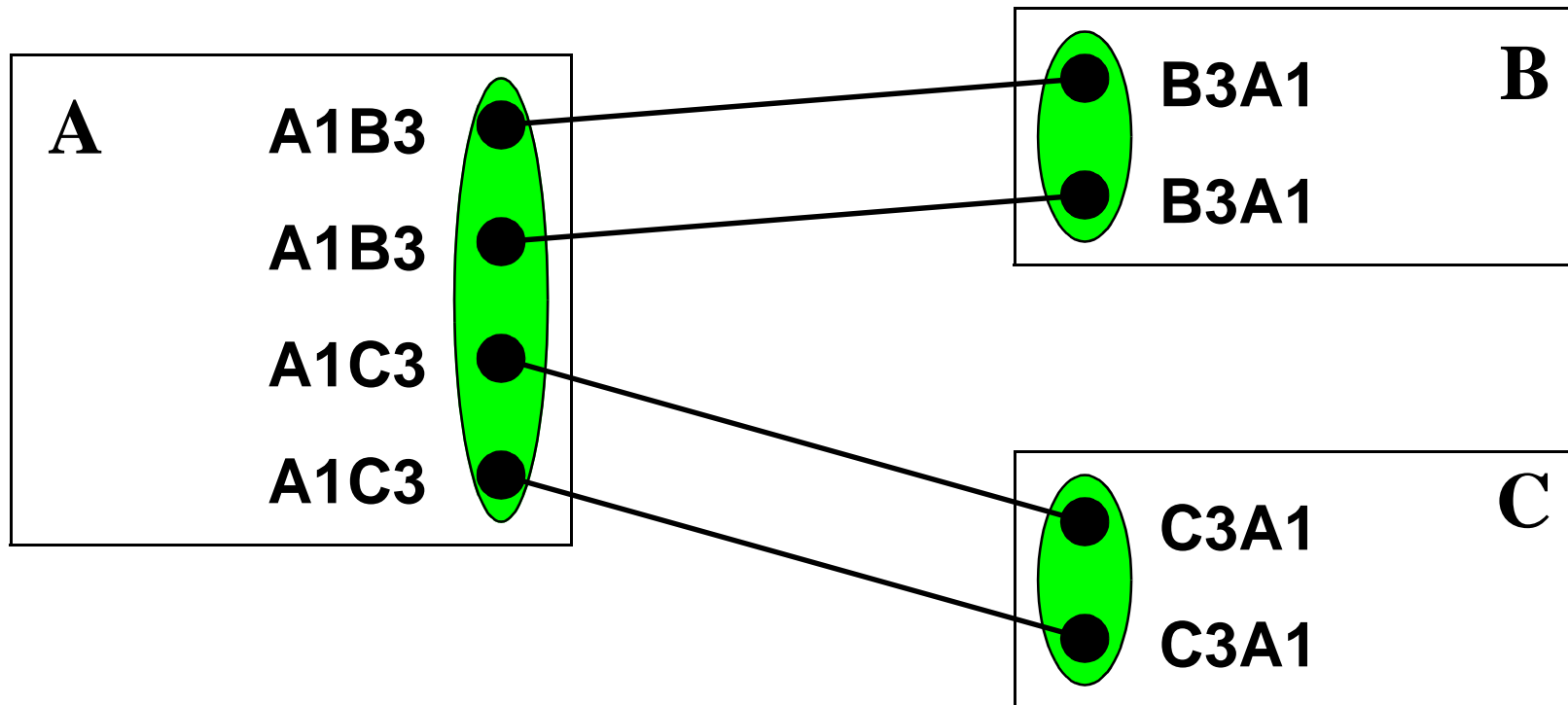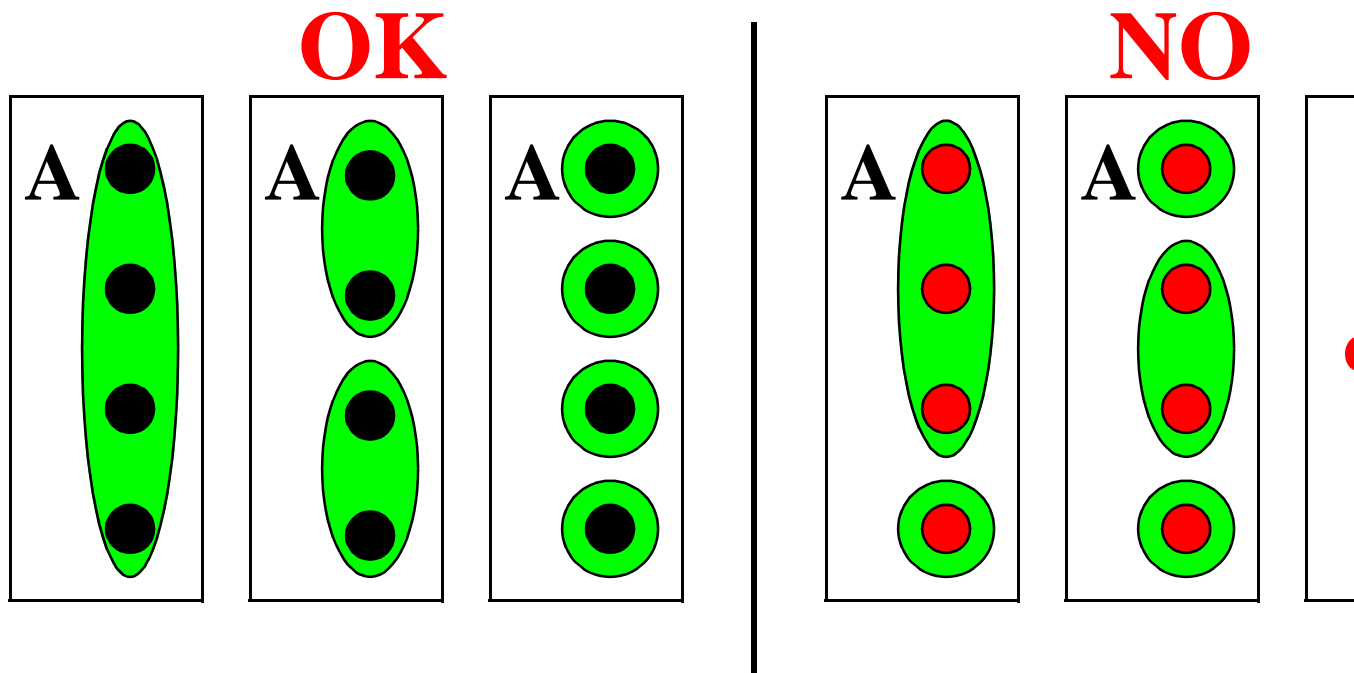# Dynamic Port Keys

- **Keys change to reflect hardware capabilities (e.g. line speed), not connection topology.**
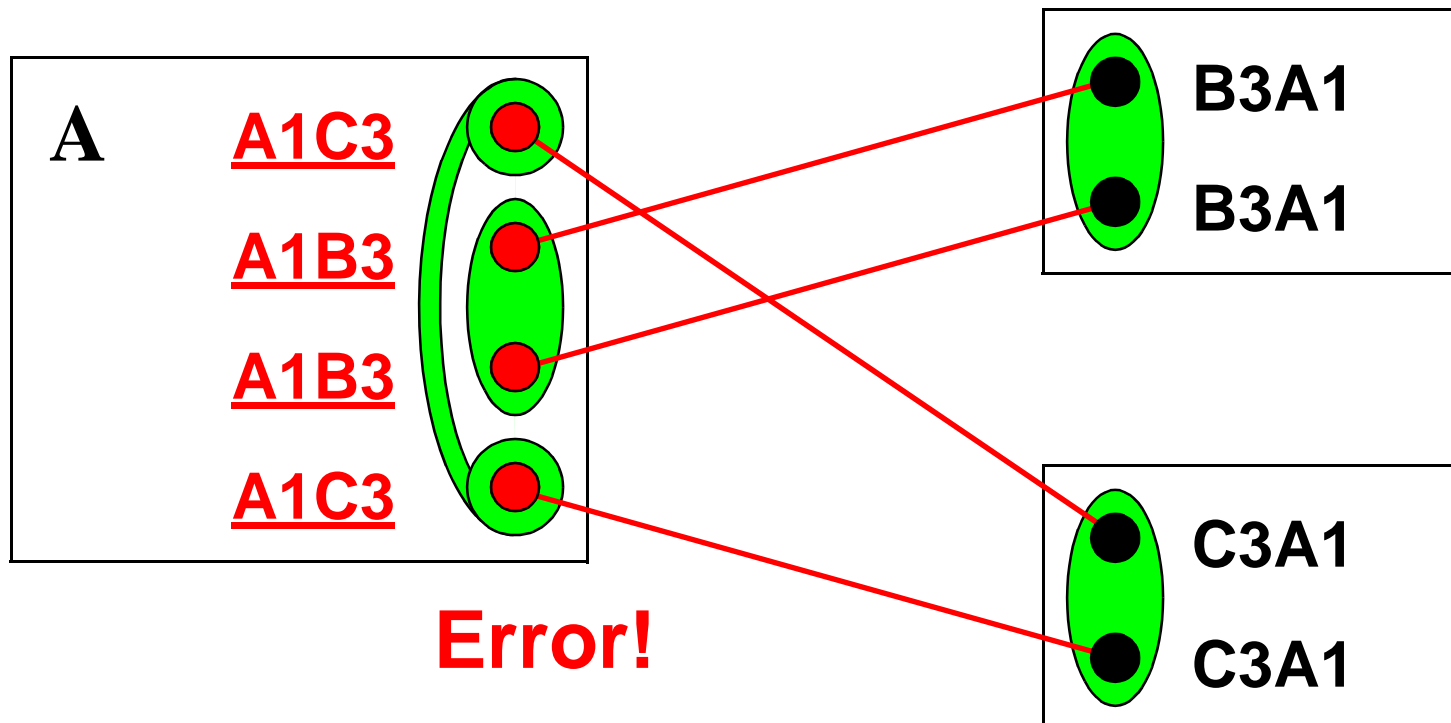
Dynamic Port Keys

IEEE 802.3ad Link Aggregation

November 10, 1998

Norman Finn

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Cisco Systems

- **Keys change to reflect hardware capabilities connection topology.**

- **Except that hardware limitations may force changes based on connection topology.**

Suppose hardware limits aggregation

OK

NO

- **Keys change to reflect hardware capabilities connection topology.**

- **Except that hardware limitations may force changes based on connection topology.**

Suppose we cross wires:

A

A1C3

A1B3

A1B3

A1C3

Error!

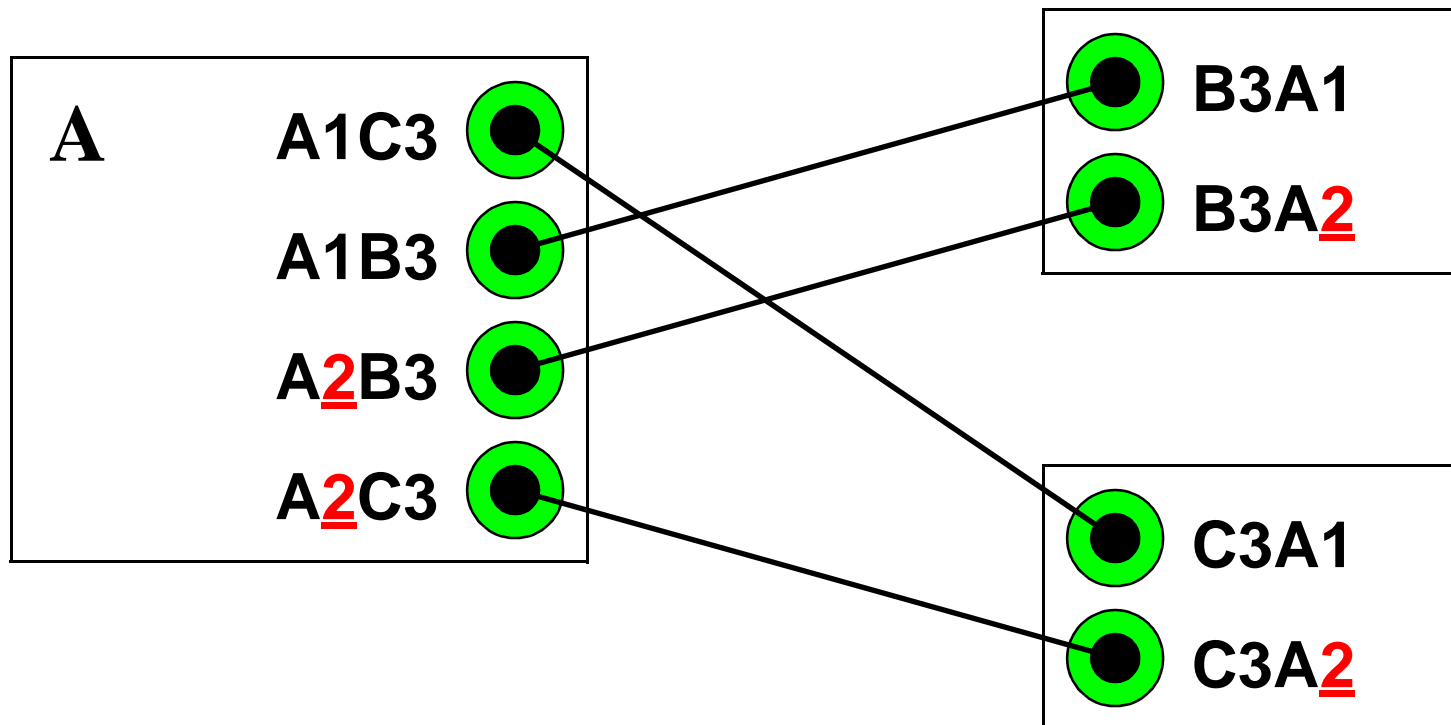B3A1

B3A1

C3A1

C3A1

- **Keys change to reflect hardware capabilities connection topology.**

- **Except that hardware limitations may force changes based on connection topology.**

Changing A's port keys prevents an illegal ag

A

A1C3

A1B3

A**2**B3

A**2**C3

B3A1

B3A**2**

C3A1

C3A**2**

- **But, if keys can change, an instability is poss**
  key change causes his keys to change, which
  keys to change back to their original state, w
  causes ...

- **A fix:**
  If we insist that key changes caused by the c
  topology only proceed in the direction of mo
  aggregation to less aggregation, then we can
  convergence.

- **Of course, if the hardware configuration cha**
  the operator intervenes, the keys may chang
  in the direction of less-to-more aggregation.

Dynamic Port Key Change R...

- **Keys change to reflect hardware capabilitie... connection topology.**

- **Except that hardware limitations may force... changes based on connection topology.**

- **Key changes caused by the connection topol... only proceed in the direction of more aggreg... less aggregation.**