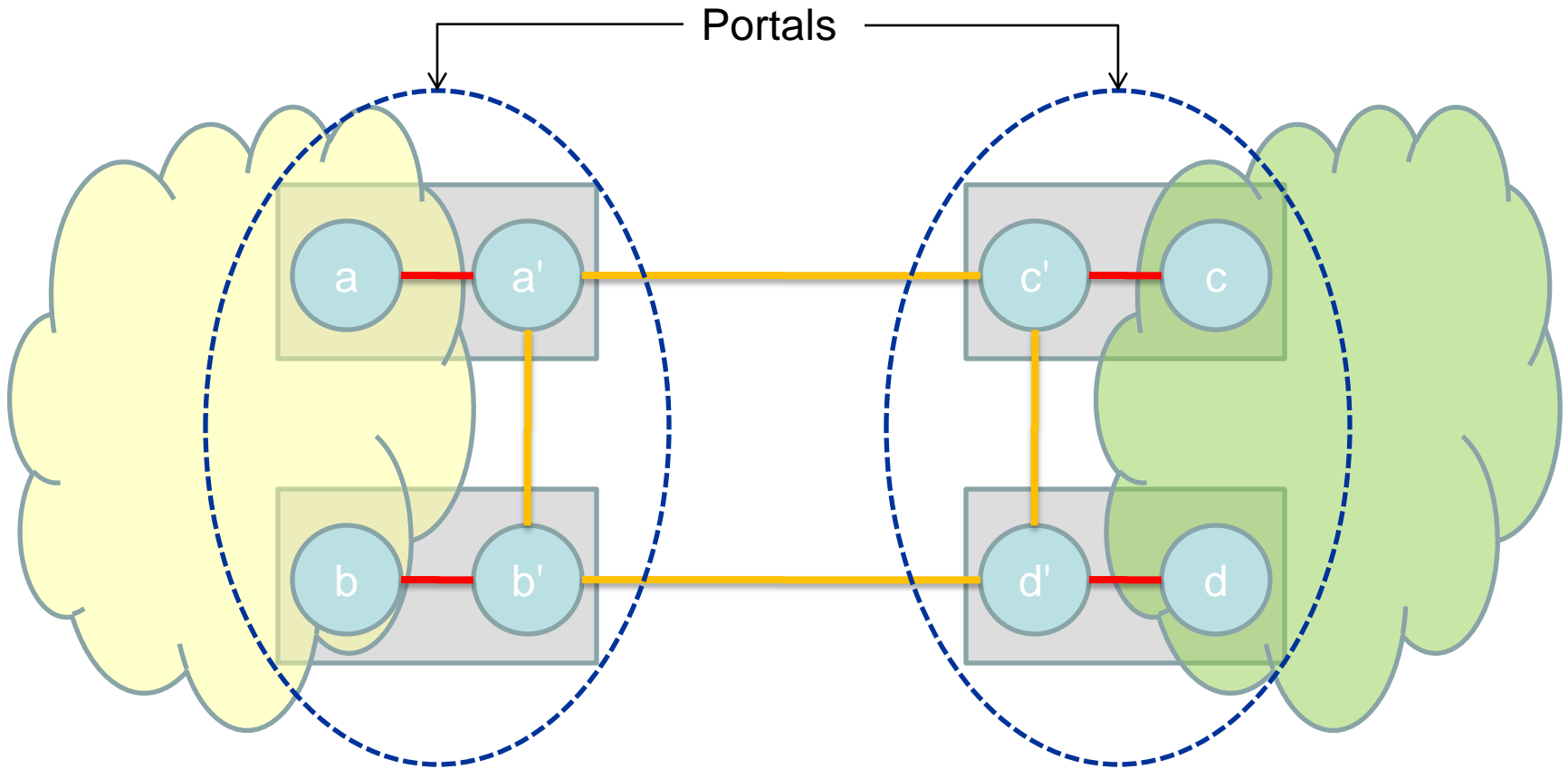


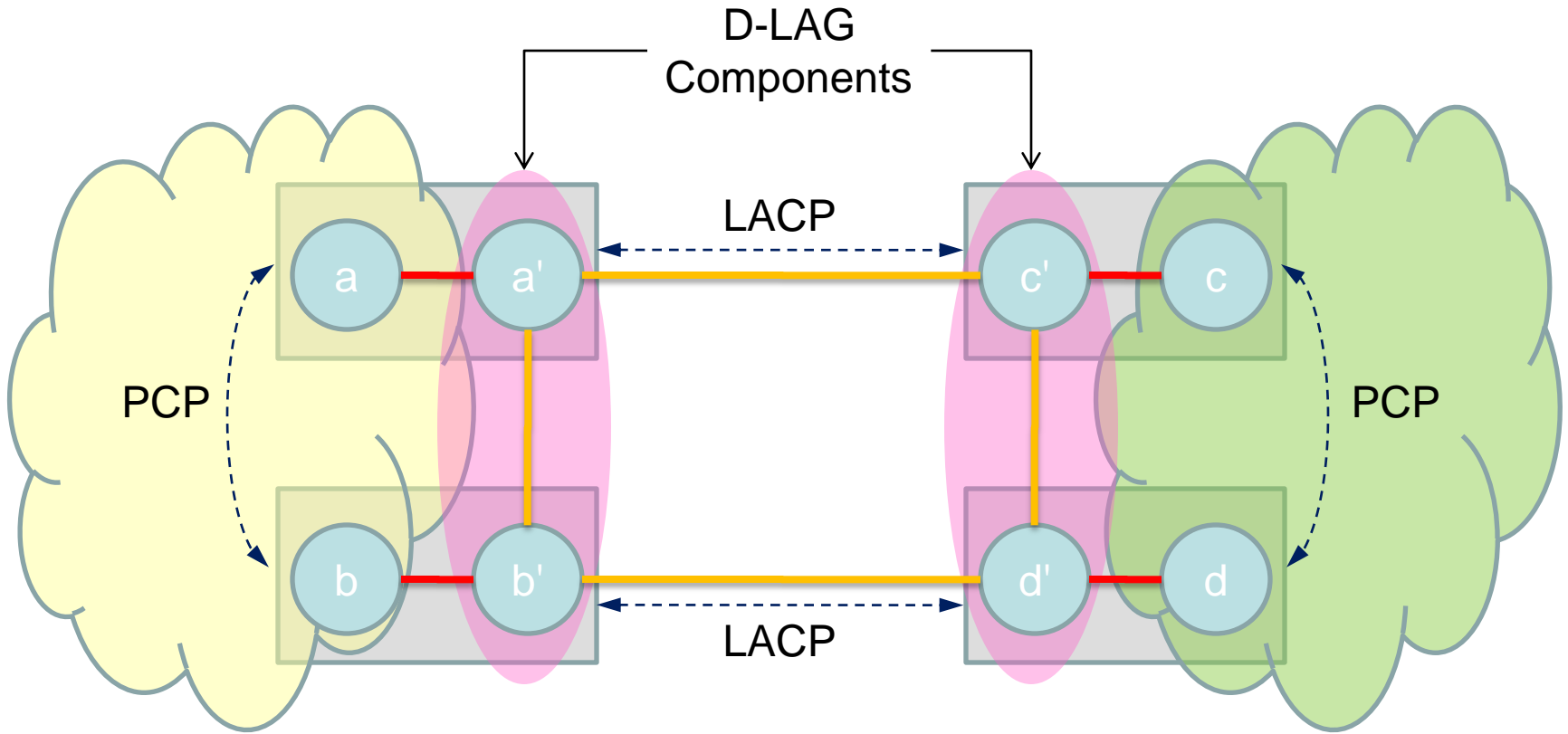
Resilient NNI D-LAG Portal Control

Ben Mack-Crane
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Basic Resilient NNI



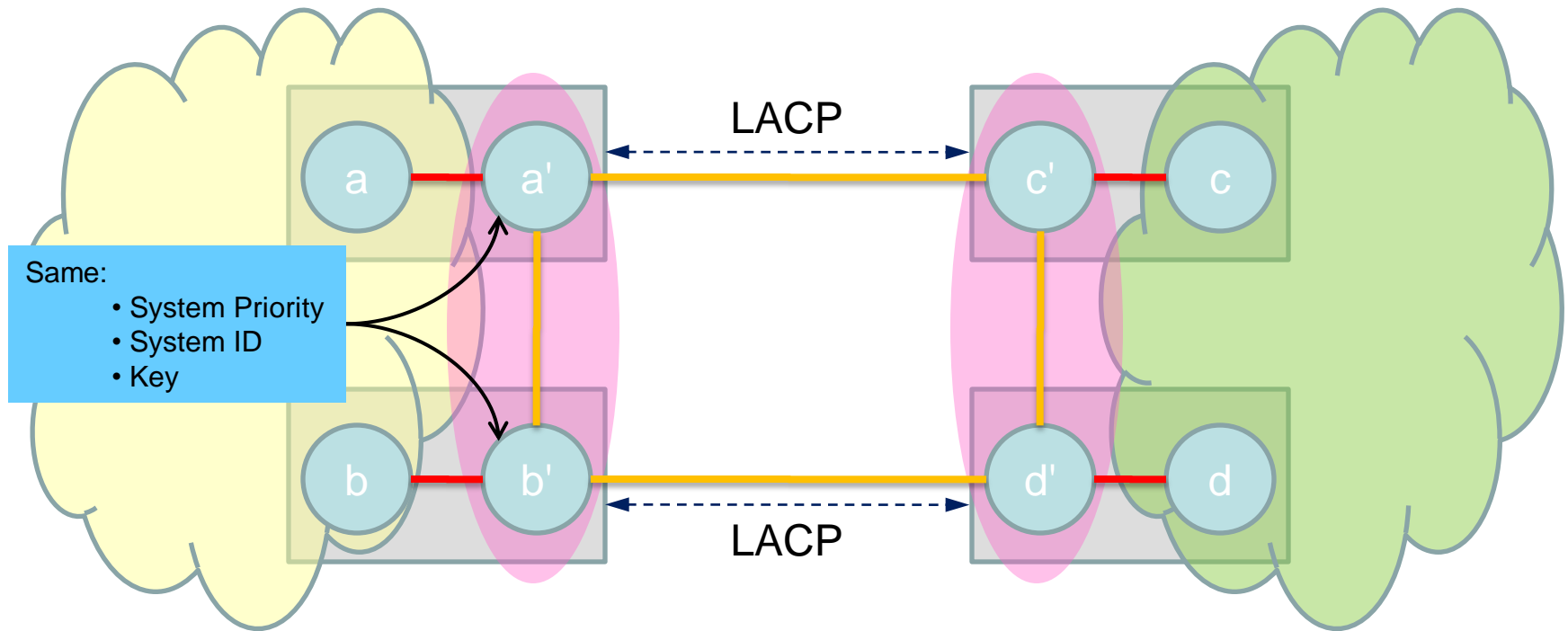
Distributed LAG



LACP – Link Aggregation Control Protocol

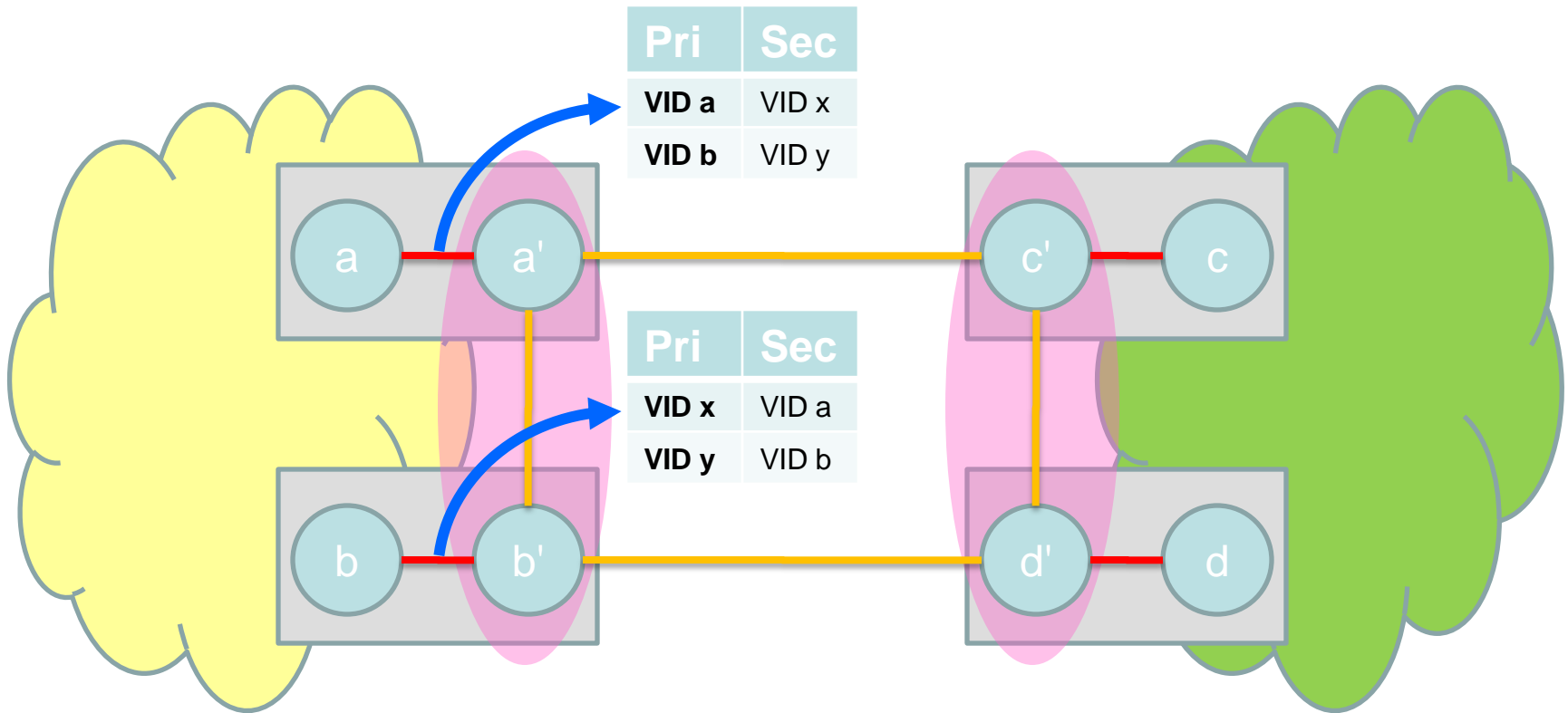
PCP – Portal Control Protocol

LACP Coordination



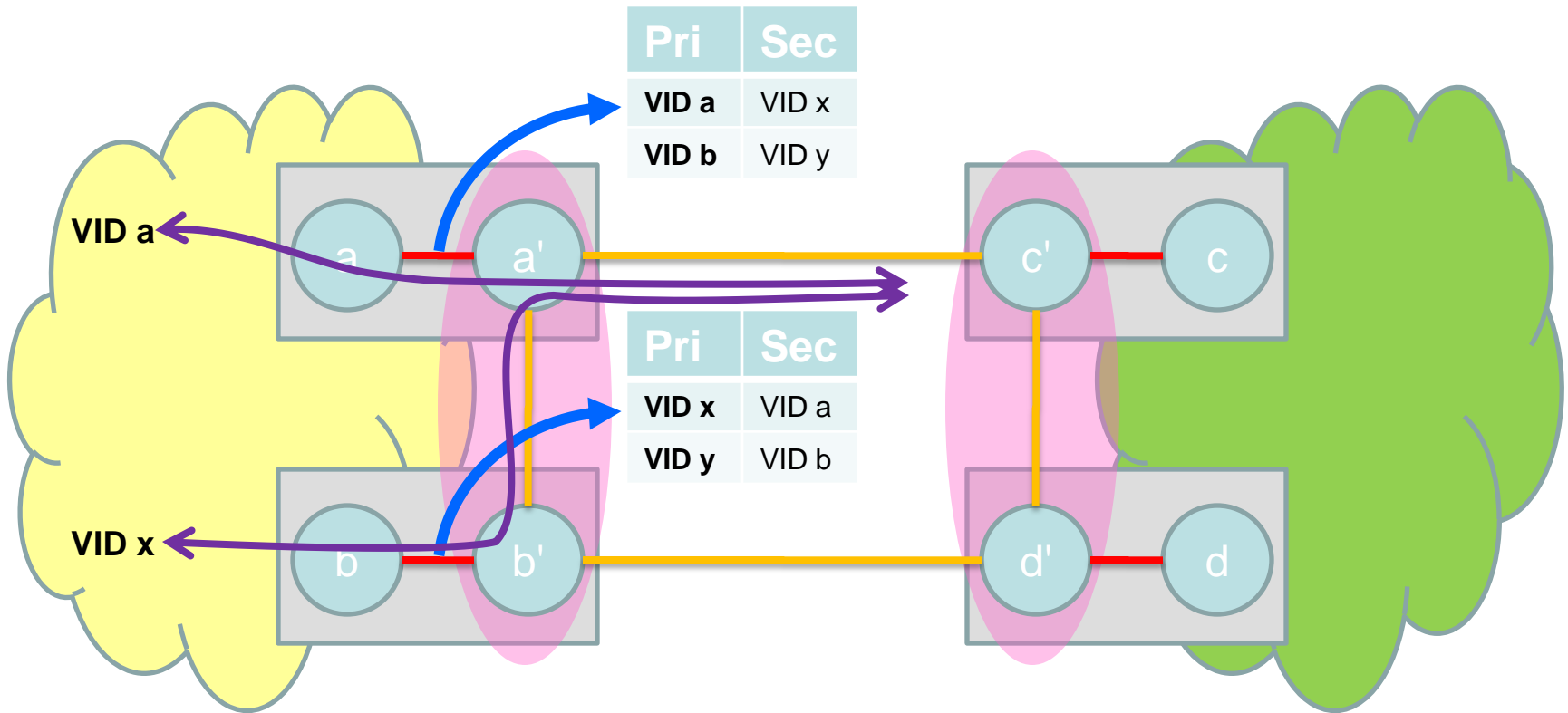
- Configure the same LAG identification on both nodes in a portal
- This supports operation as a single (distributed) LAG via LACP
- Enables interoperation with a single node portal (dual homing)

Service Gateway Configuration



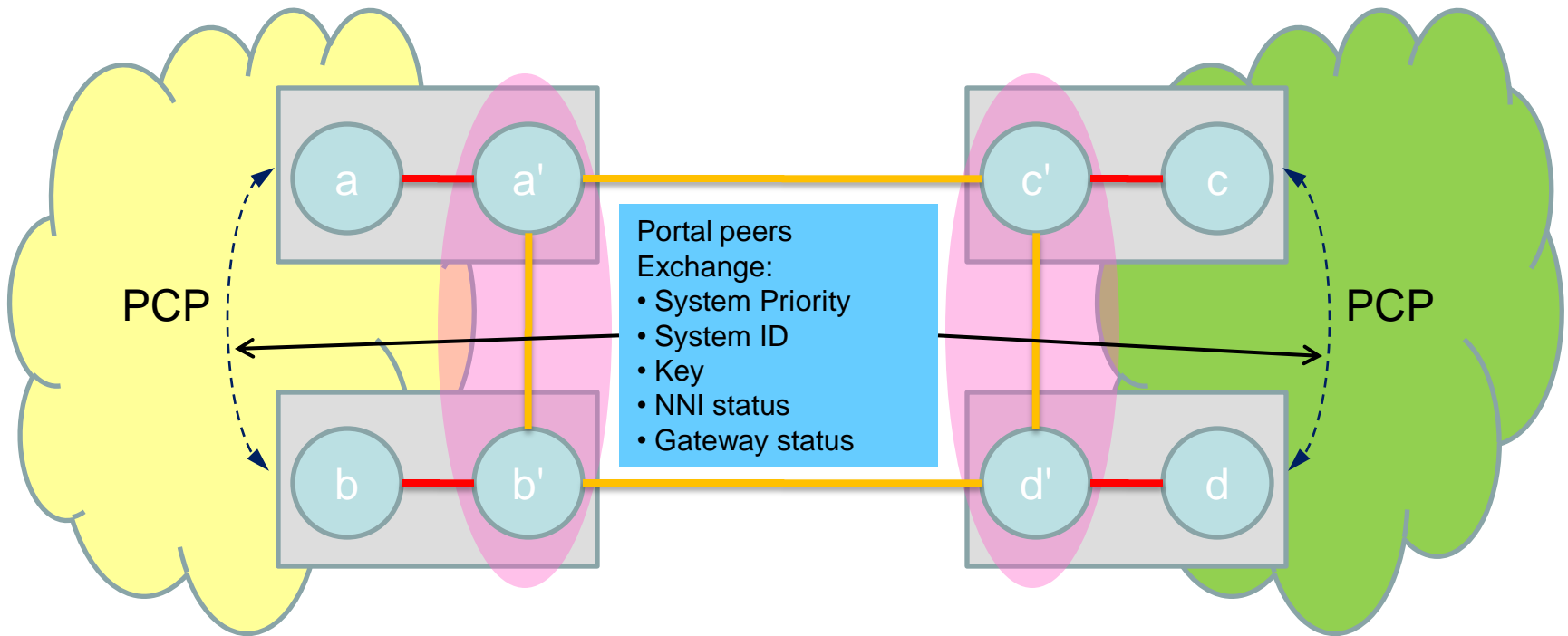
- Each portal must have a single active gateway for each service
- Thus each D-LAG gateway has two service sets configured:
 - Services for which the gateway is primary
 - Services for which the gateway is secondary

Data Plane Configuration



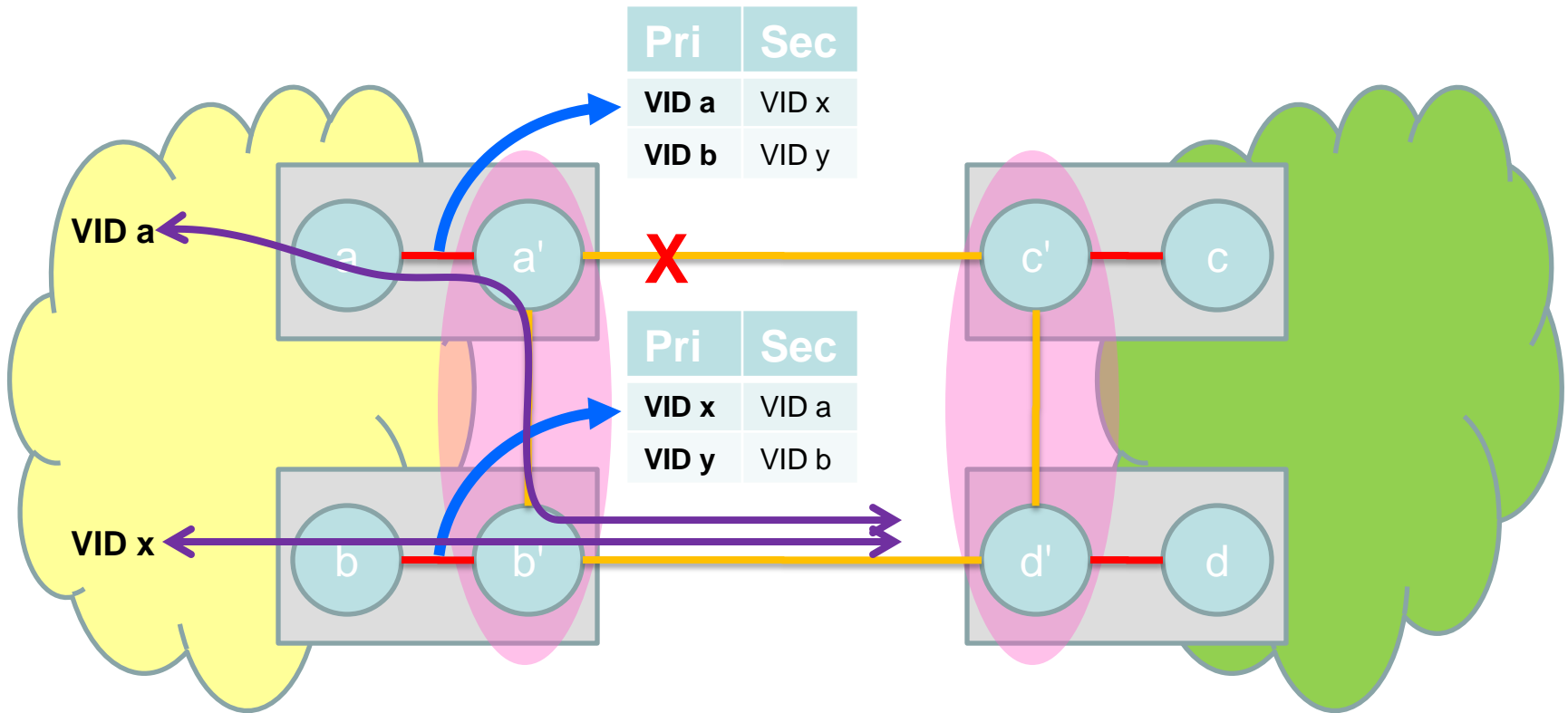
- Frame filtering selects the active gateway for each service
- For example, as in [new-farkas-RNI-data-plane-0111.pdf](#)

Gateway Status Exchange



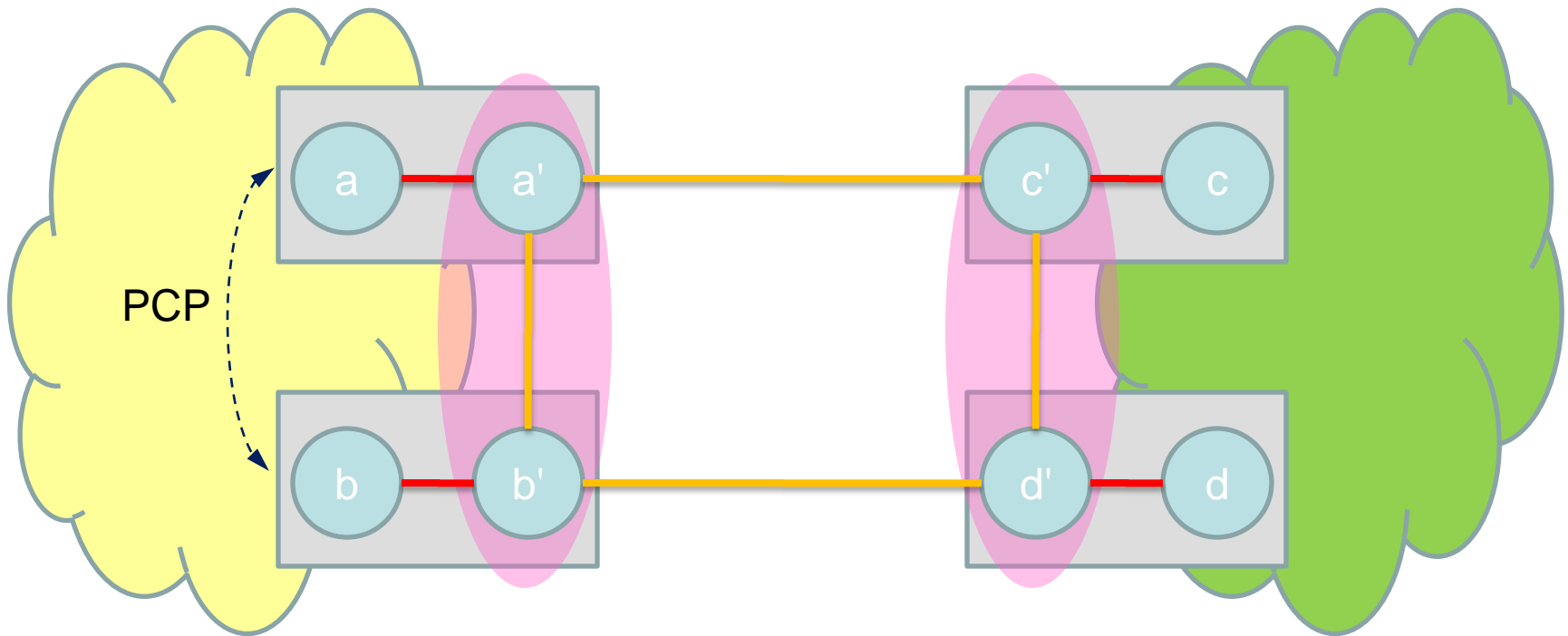
- PCP exchanges LAG identification and gateway status between nodes in portal (e.g., unicast messages between D-LAG peers)
- PCP is carried in local domain (not in boundary network)

NNI Fault Recovery



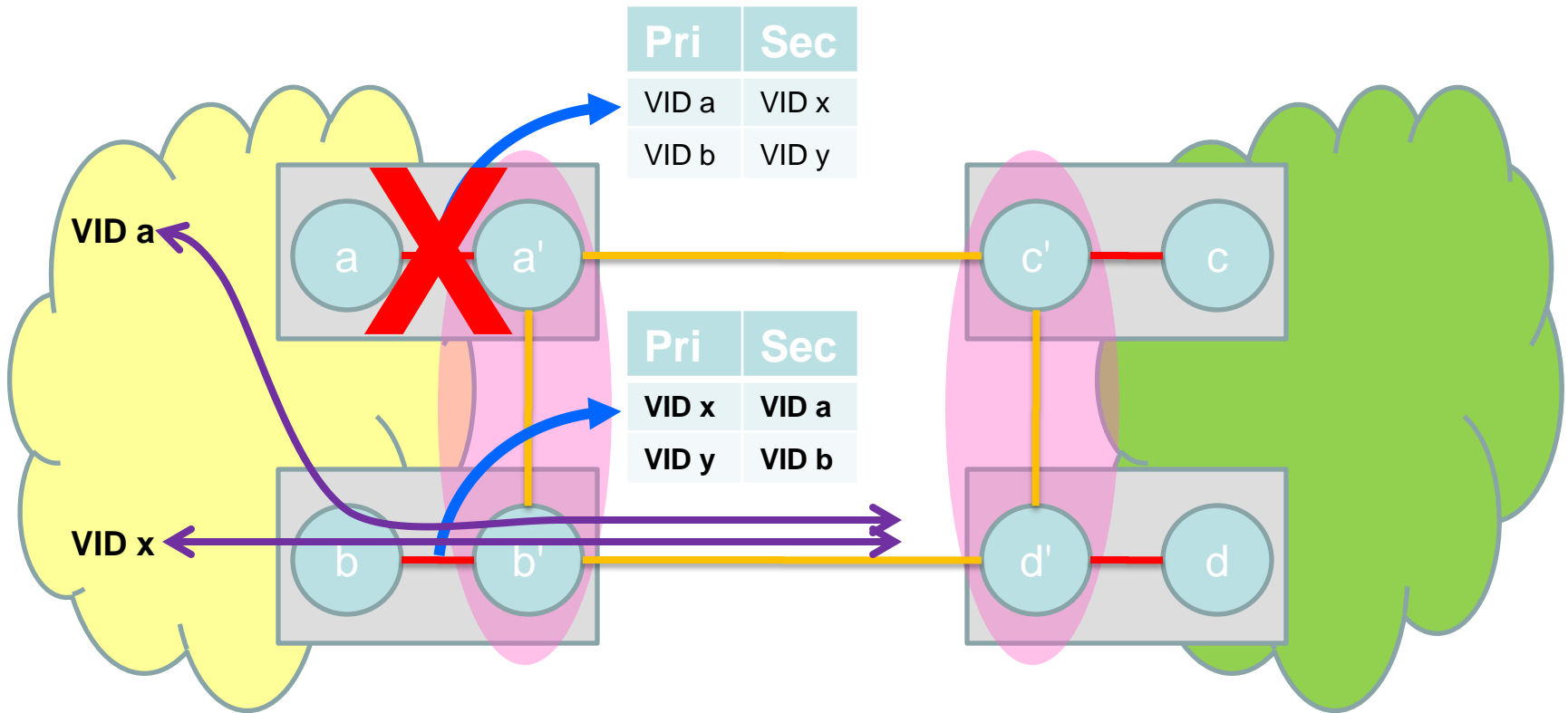
- NNI fault causes D-LAG to switch

Service Gateway Selection



- Active gateway serves its primary services and advertises status via PCP
- If a gateway sees its peer gateway status DOWN or no PCP messages (domain partition), it becomes active for its secondary services

Node Fault Recovery



- Gateway fault causes peer gateway activation of secondary services