Kubernetes: A very brief explanation of ports

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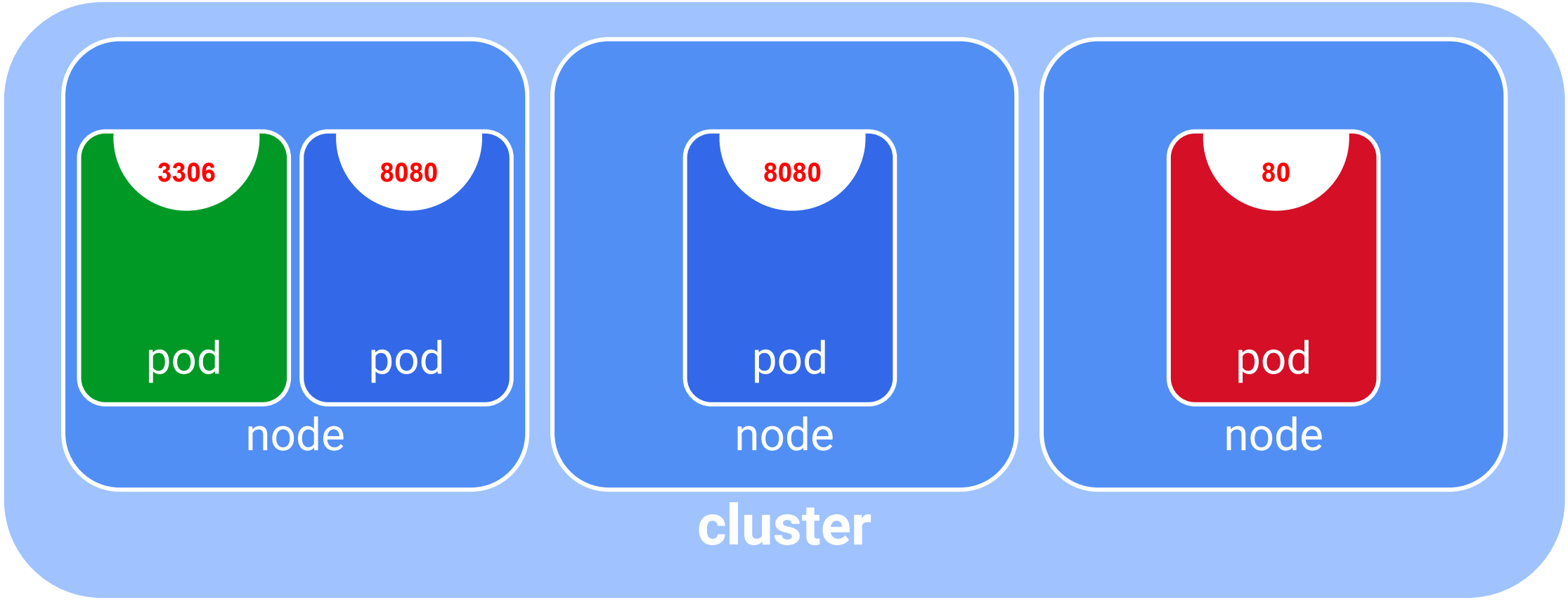
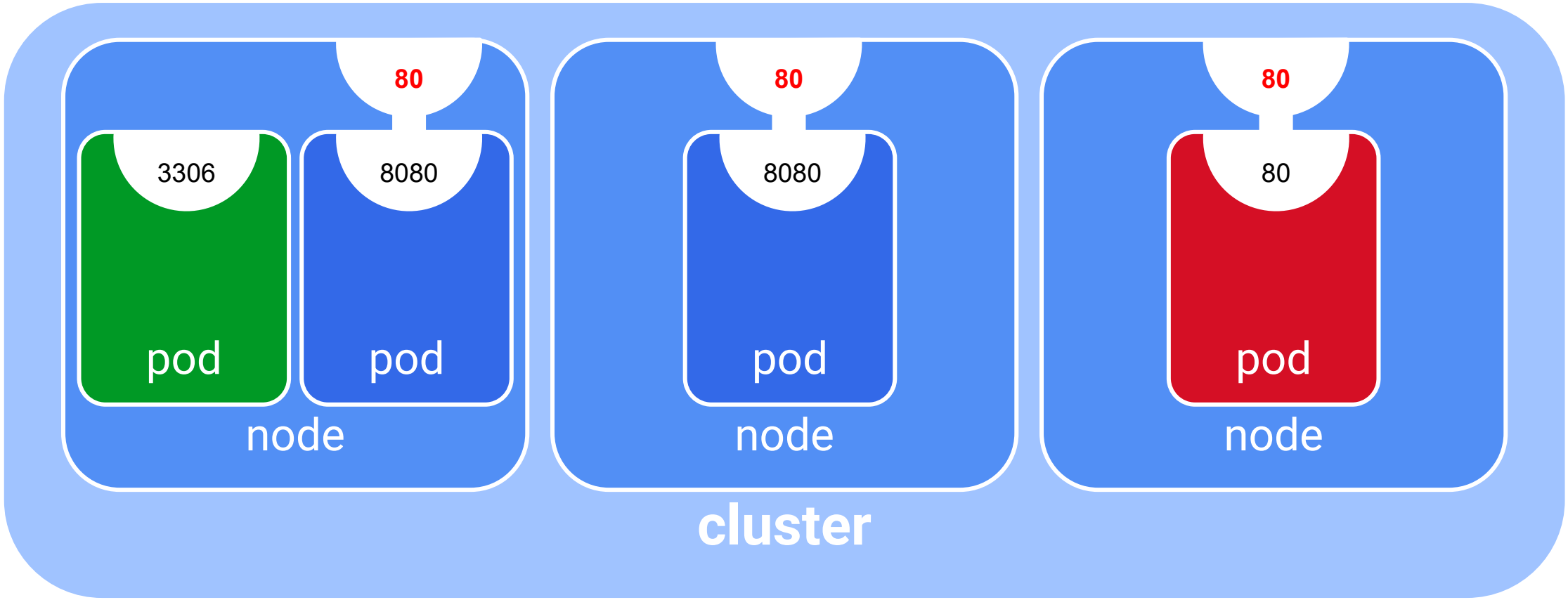
pod.spec.ports[*].containerPort

- declares the existence of a port on a pod
- can be assigned a name or hostPort
- informational, not required



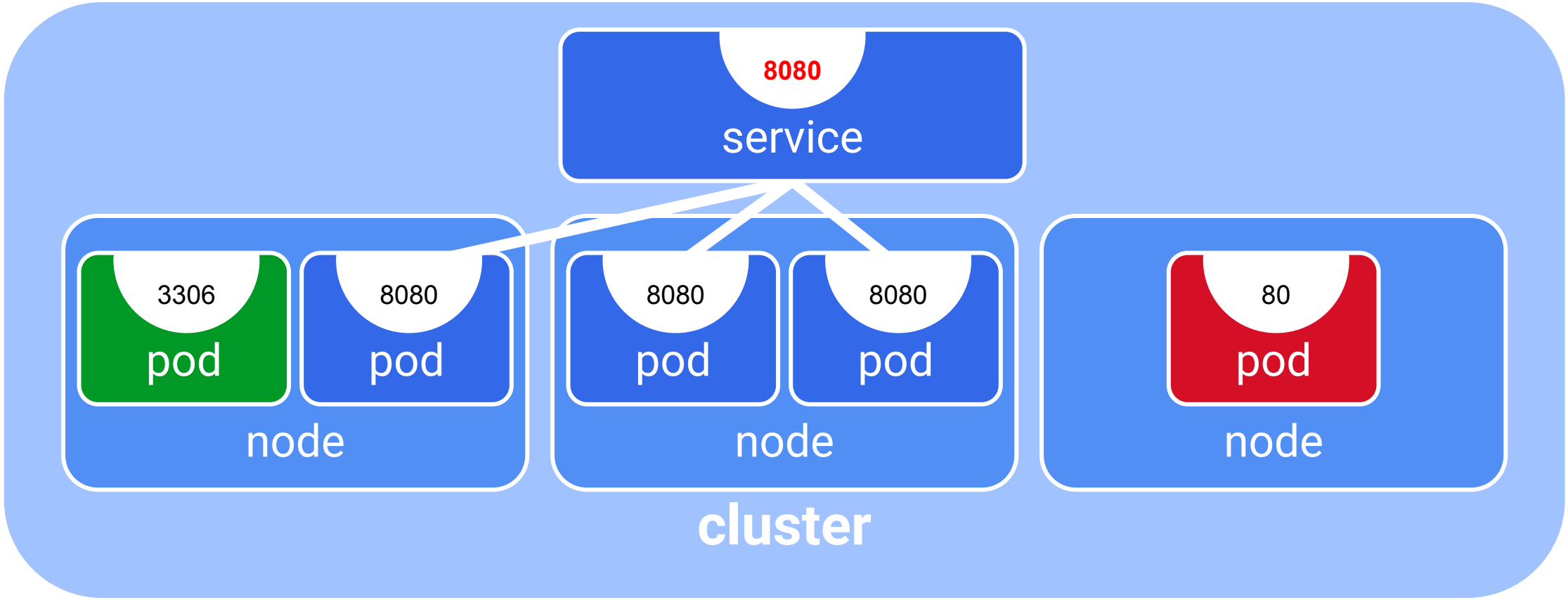
pod.spec.ports[*].hostPort

- maps a specific port on a single node's IP to a containerPort
- only one per-port per-node
- should be your LAST RESORT - if the pod moves, the ip:port changes



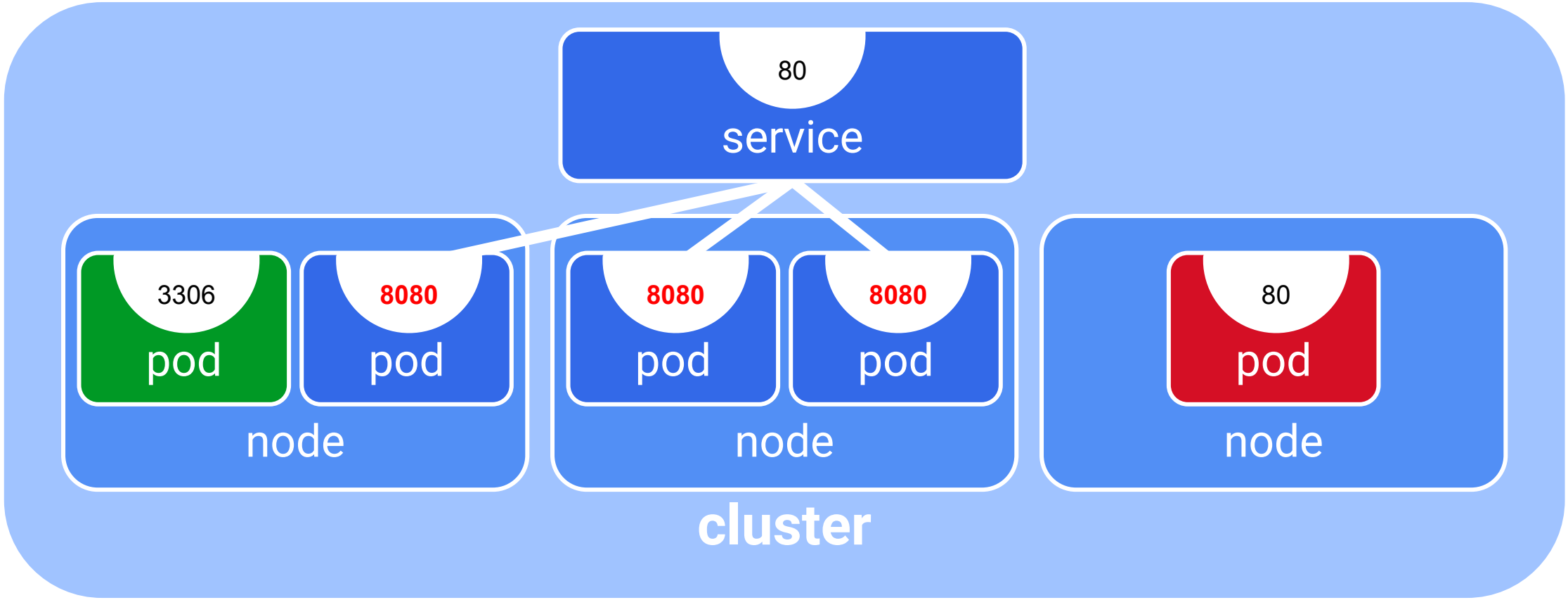
service.spec.ports[*].port

- the virtual port on the service VIP
- service clients use this
- stable ip:port - does not change when pods move



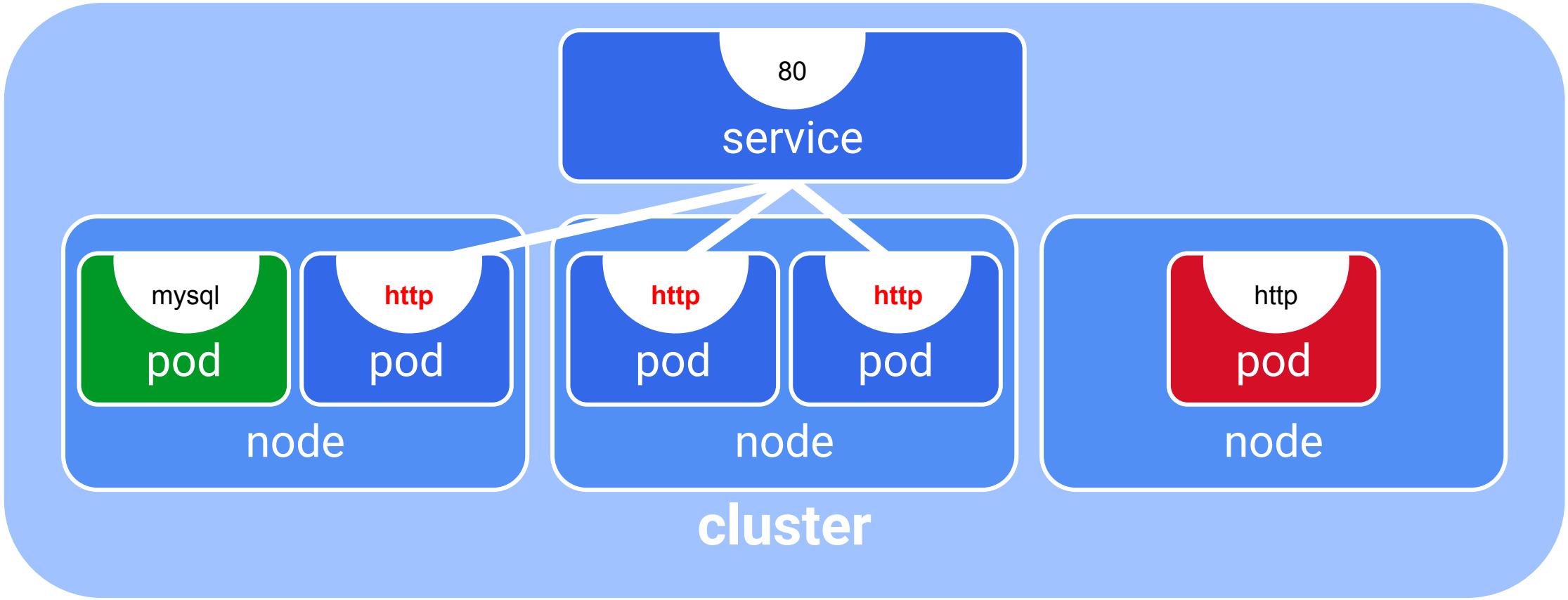
service.spec.ports[*].targetPort

- maps a service port to backend containerPorts



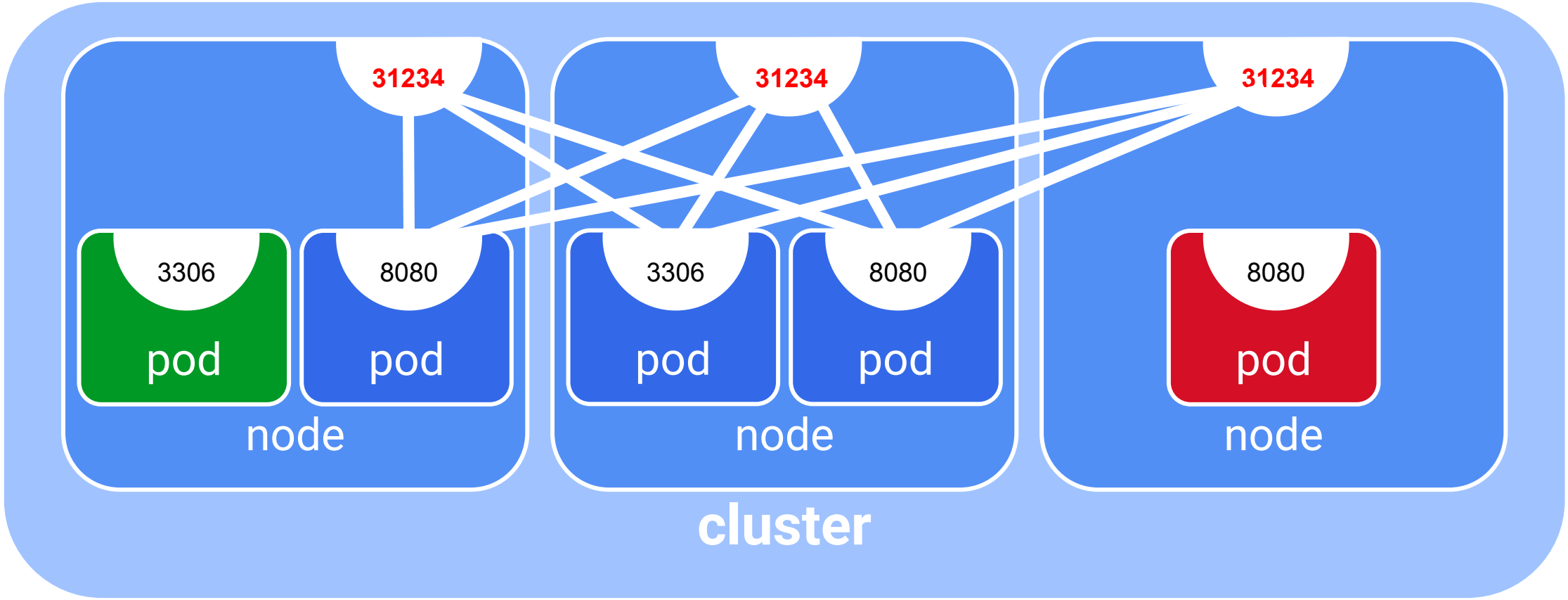
service.spec.ports[*].targetPort

- maps a service port to backend containerPorts
- can target a containerPort by number or name



service.spec.ports[*].nodePort

- maps a port on every node to a service port
- ports are allocated, random
- useful to interface with load-balancers that only understand nodes



service.spec.ports[*].nodePort (OnlyLocal)

- annotation:
  `service.beta.kubernetes.io/external-traffic=OnlyLocal`
- changes how backends are chosen