

PostModern Internetwork Architecture

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PostModern Goals

- PoMo Principles
 - strict separation of concerns
 - include mechanisms supporting all foreseeable policies
- Novel characteristics
 - separate path determination from forwarding
 - eschew hierarchical identifiers such as IP addresses
 - unforgeable record of path traversed by each packet
 - transparency at top-level realm interconnection
 - separate customer-provider relationship from topology
 - support cross-layer knobs & dials

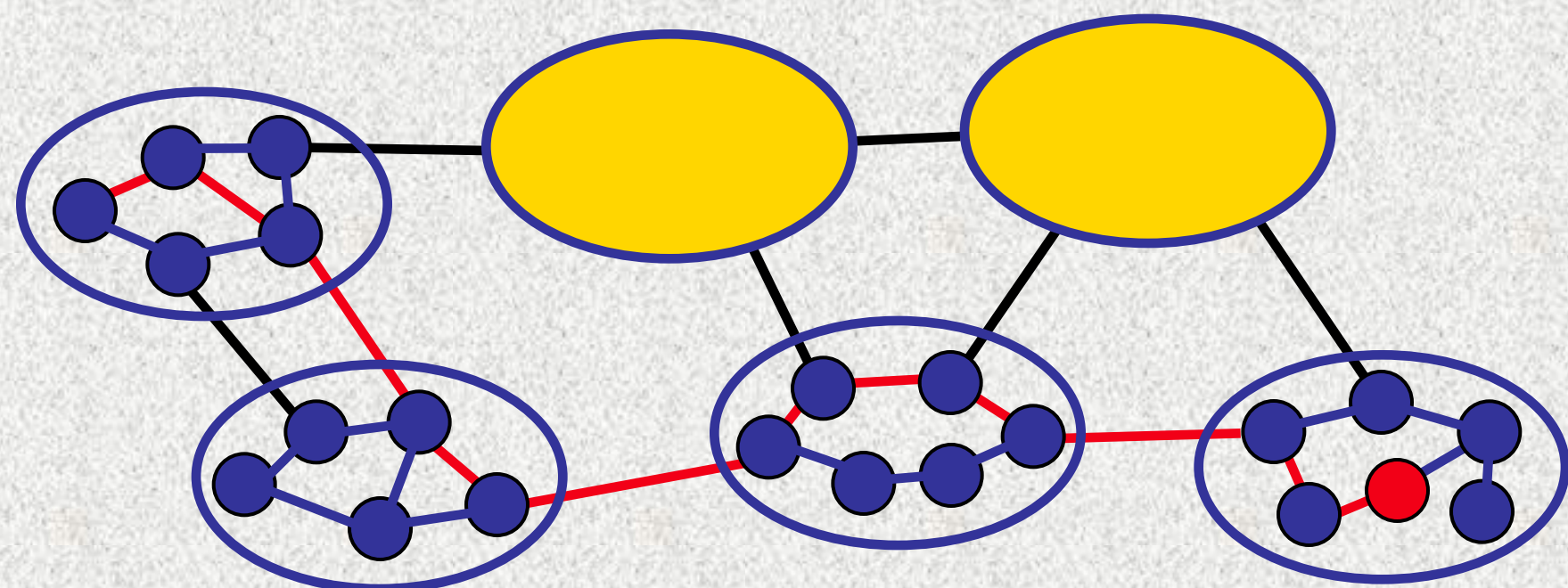
PoMo Network Layer Blocks

<i>where</i>	<i>why</i>	<i>who</i>	<i>how</i>	<i>what</i>
forwarding directive	motivation	accountability	knobs	dials
payload				

- Forwarding directive (FD): *where*
 - tells infrastructure how to relay the packet
 - some combination of: destination specification + partial path
 - path = sequence of link IDs

Routing/Forwarding in PoMo

- Link-based routing and forwarding
 - inter-realm link info propagates everywhere
 - source constructs realm-level path to given entry link
 - providers construct intra-realm parts
 - reverse path comes for free



More Network Layer Blocks

- Motivation: *why*
 - convinces intermediate node it should relay the packet
- Accountability: *who*
 - hard-to-forge record of who handled the packet
- Dials: *what*
 - advice to transport or application from below
- Knobs: *how*
 - advice to network layer (and below) from above
- Research question at each block: what principals must be identified?