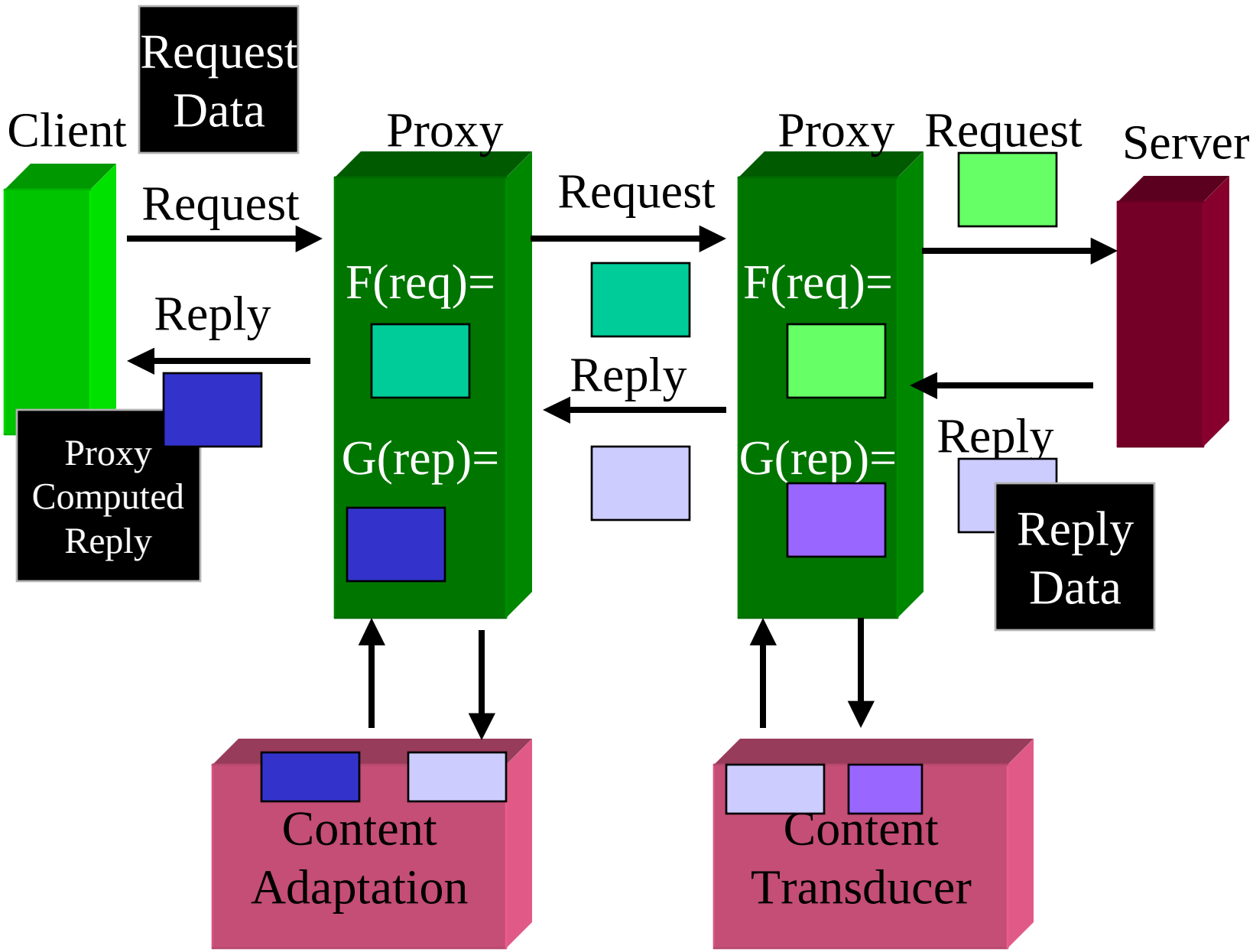
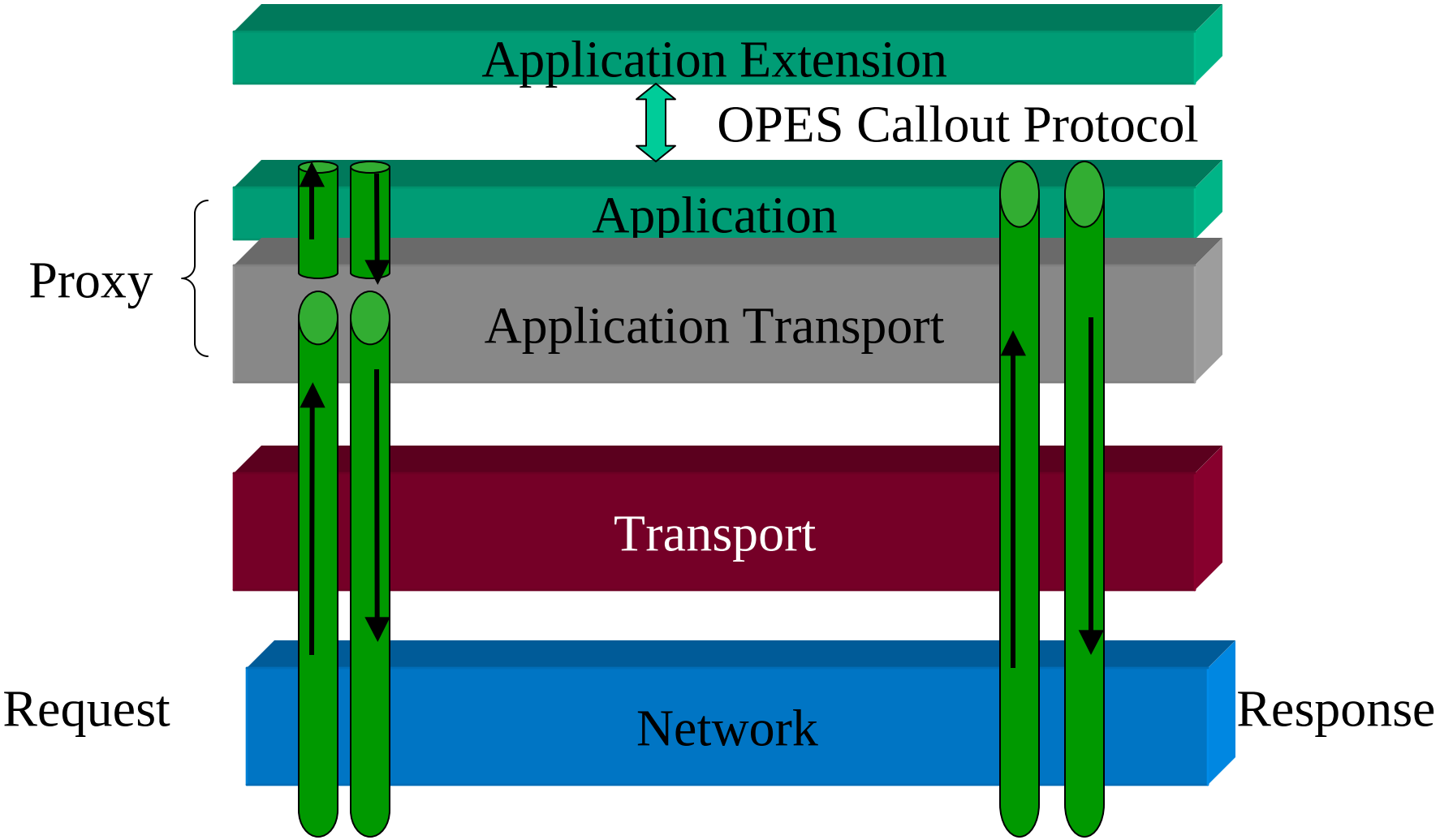
OPES
Open Pluggable Extension Services

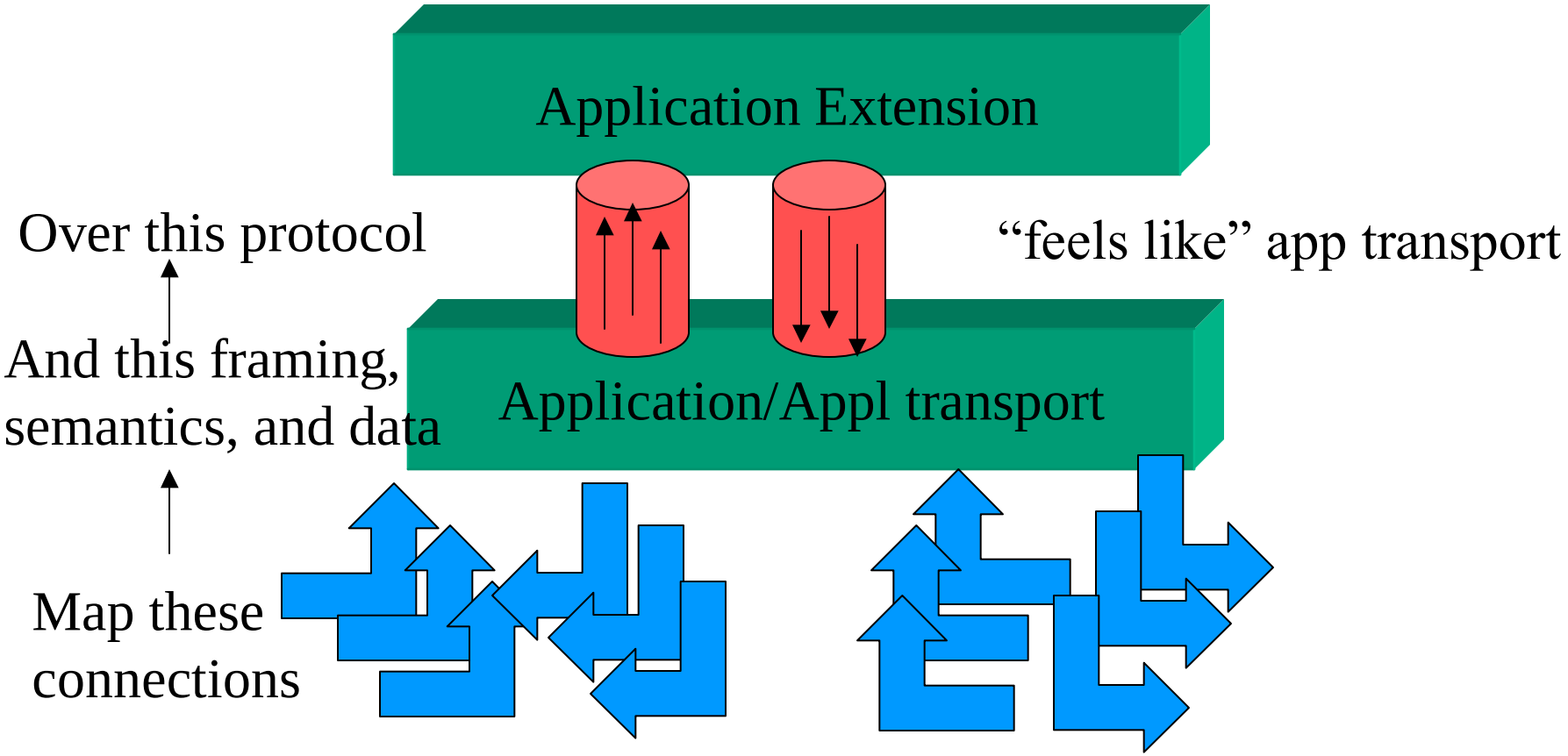
- Proxy-based application extensions
  - No changes to endpoint agents
- Protocol for proxy to application communication
  - Application-level reframing
  - Partial messages
  - Signalling start/stop/skip/, etc.
- Opt-in, tracing, privacy considerations
- Rule language for vectoring


Request Data
Client
Proxy
Proxy
Request
Server
Request
F(req)=
Request
F(req)=
Reply
Reply
Reply
Proxy Computed Reply
G(rep)=
G(rep)=
Reply Data
Content Adaptation
Content Transducer

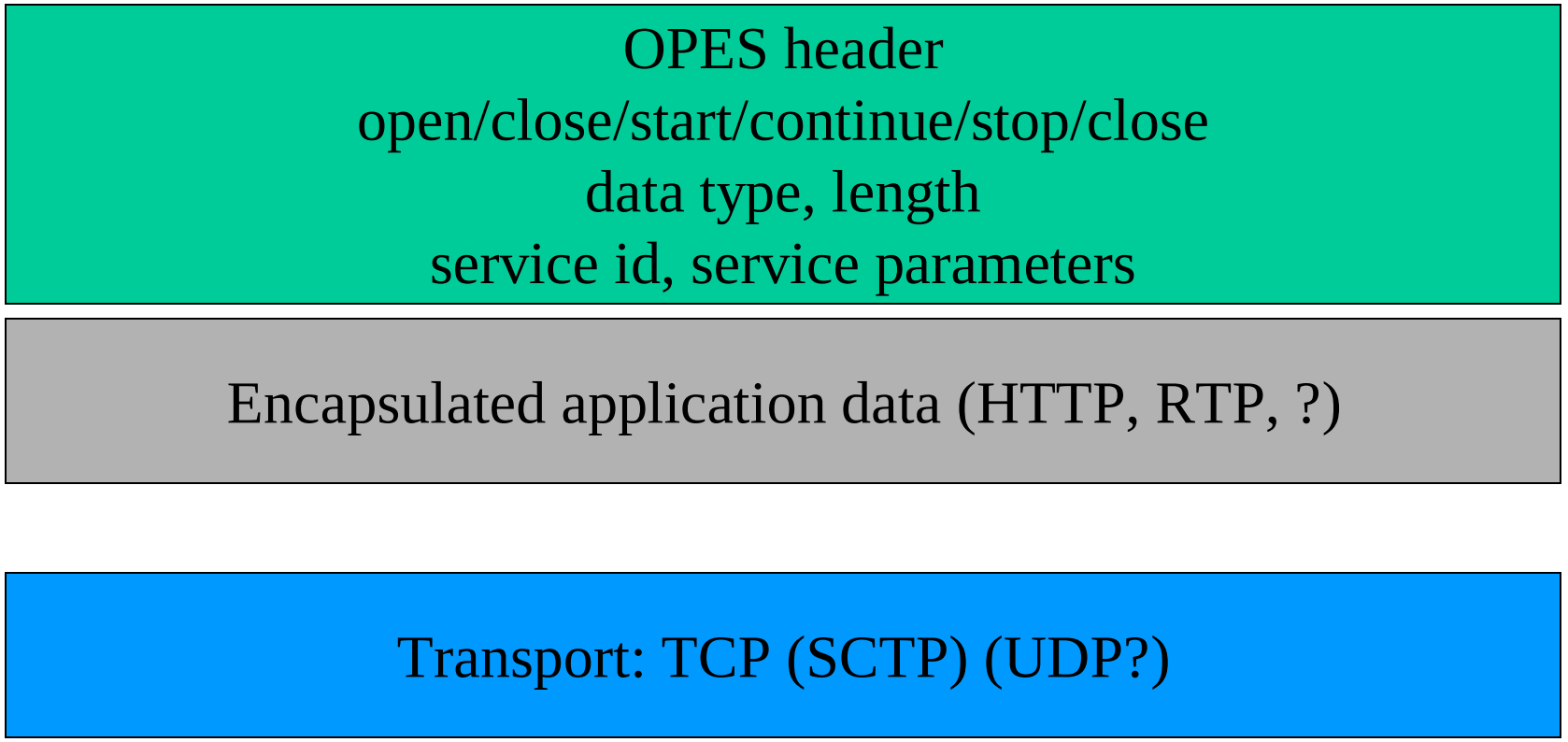
OPES (Is and Isn't)'s



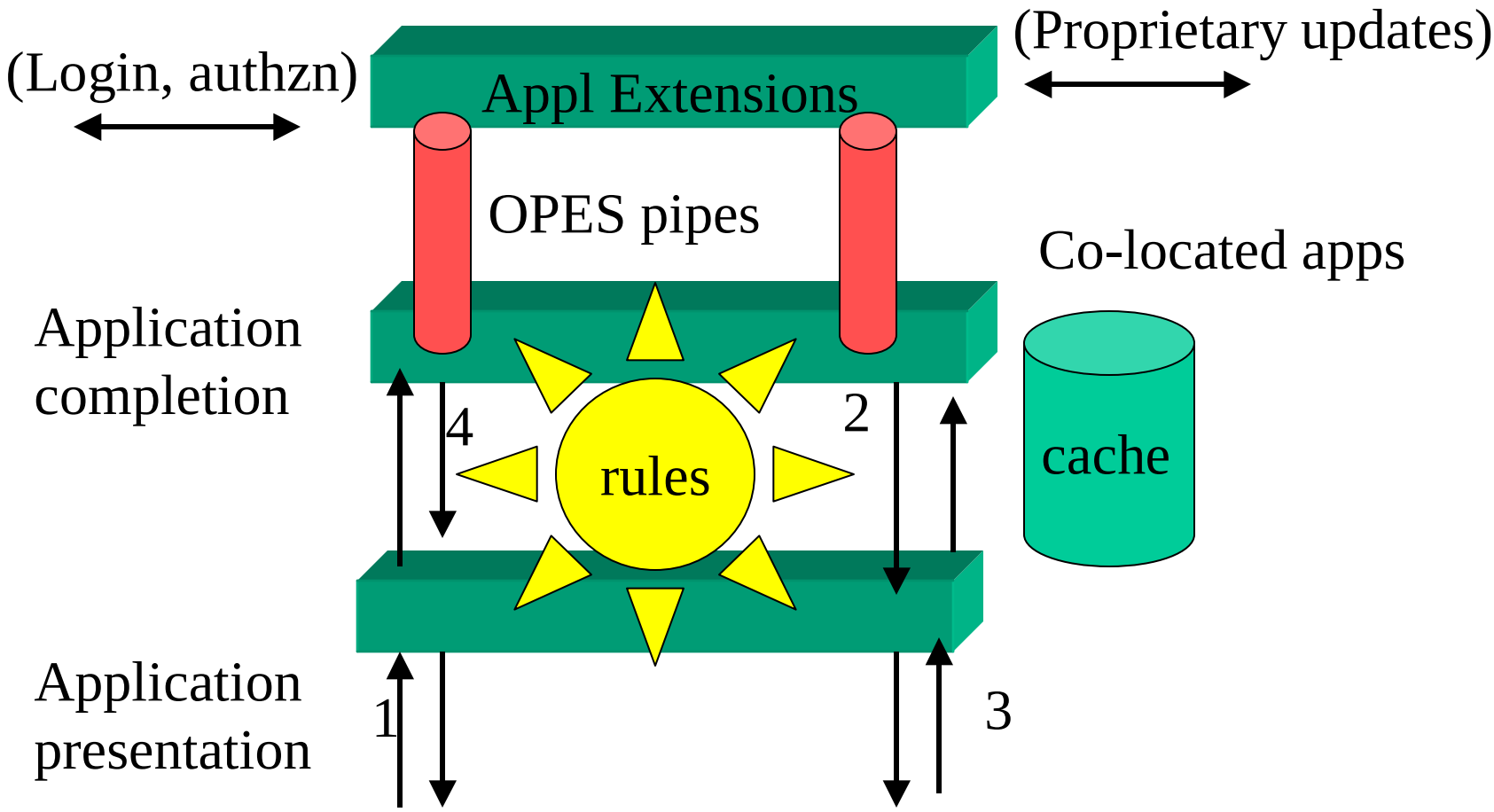
OPES Challenge



OPES Callout Protocol



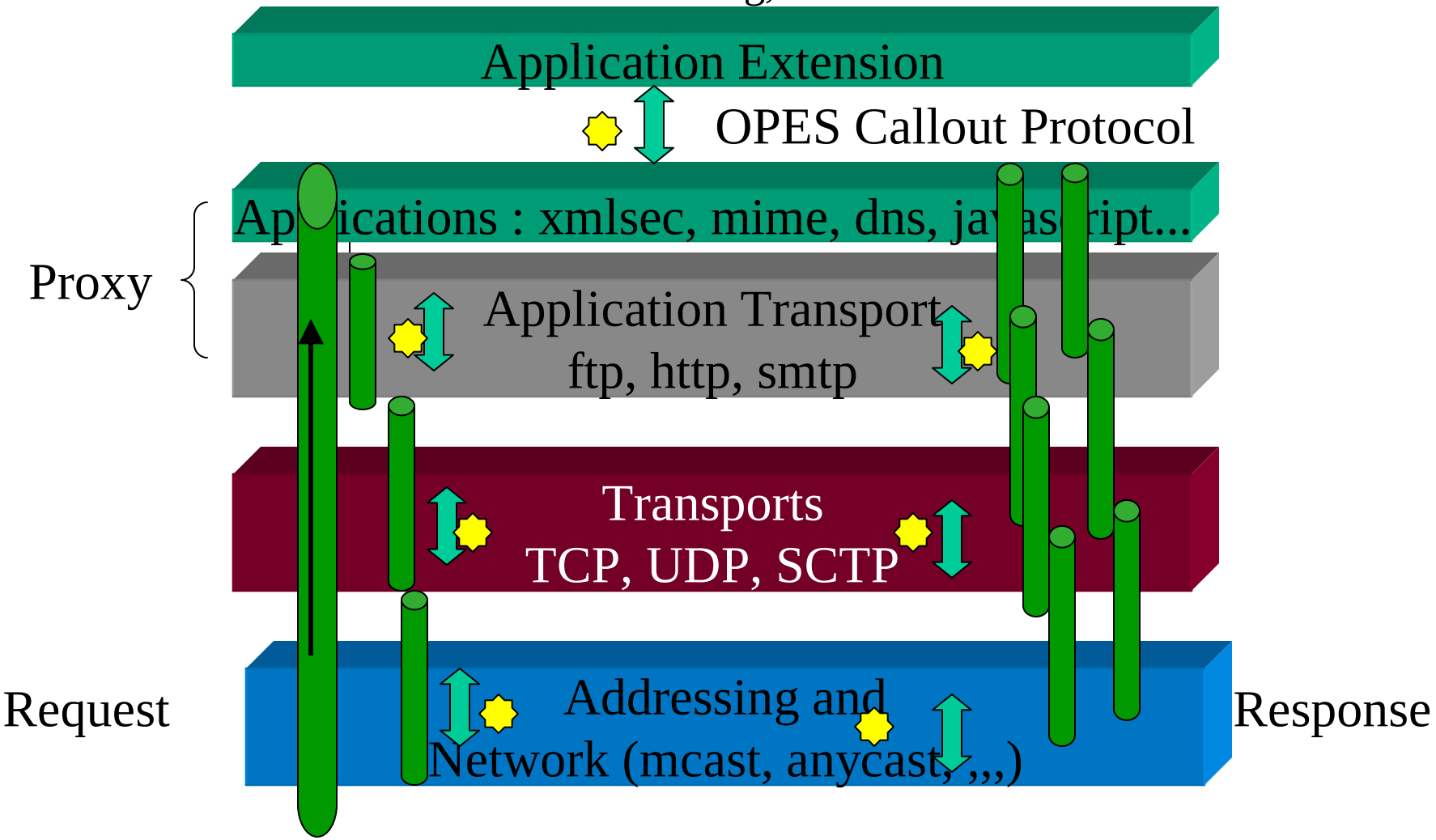
OPES Commn & Code Points



Possibly Augmented App Hdrs

- OPES-service-permission
  - service name list, ANY, NONE

- OPES-trace-info
  - OPES-callout-server-id
  - OPES-service-id
  - trace-file-URL (?)

More generally …

Unicast->multicast, protocol translation, switch functions, content addressing, ...