

Envoy Filters

What are HTTP Filters

- Code that can interact with the request/response
- Async IO
- Transparently work with HTTP 1.1 or 2 (and soon 3).
- Chained together

Programming Model: Async IO

- Envoy multiplexes many requests on the same thread
- Filter **MUST** not perform any IO or blocking operations
- Blocking code will compile, but will block **ALL** requests on the same thread

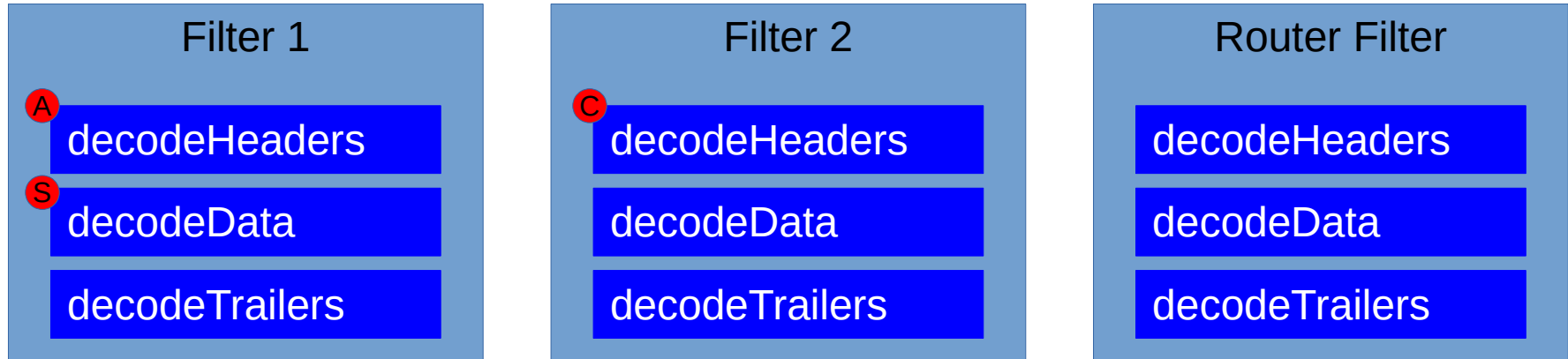
Async IO Model

<u>Instead of this</u>	<u>Do this</u>
Sleep	Timer + callback
open/read file lazily	open/read files during filter configuration only!
Use libcurl for http requests	Use envoy HTTP client (+ callbacks)
Locks / Mutex	Thread Local Storage

Filter

- Main functions to write:
 - decodeHeaders; called when headers arrive
 - decodeData; called zero or more times with body
 - decodeTrailers; called zero or one time with trailers.
- Each function can make a decision:
 - Continue the filter chain iteration
 - Stop the filter chain iteration

Filter Chain



Let's look at some code