

New Internet Draft

Enabling Network Traffic Obfuscation - Pluggable Transports

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Why “Pluggable” Transports?

- Pluggable Transports (PTs) are a mechanism enabling the rapid development and deployment of network traffic obfuscation techniques used to circumvent surveillance and censorship
- Deep Details: <https://www.pluggabletransports.info>

Generalized Pluggable Transport Architecture

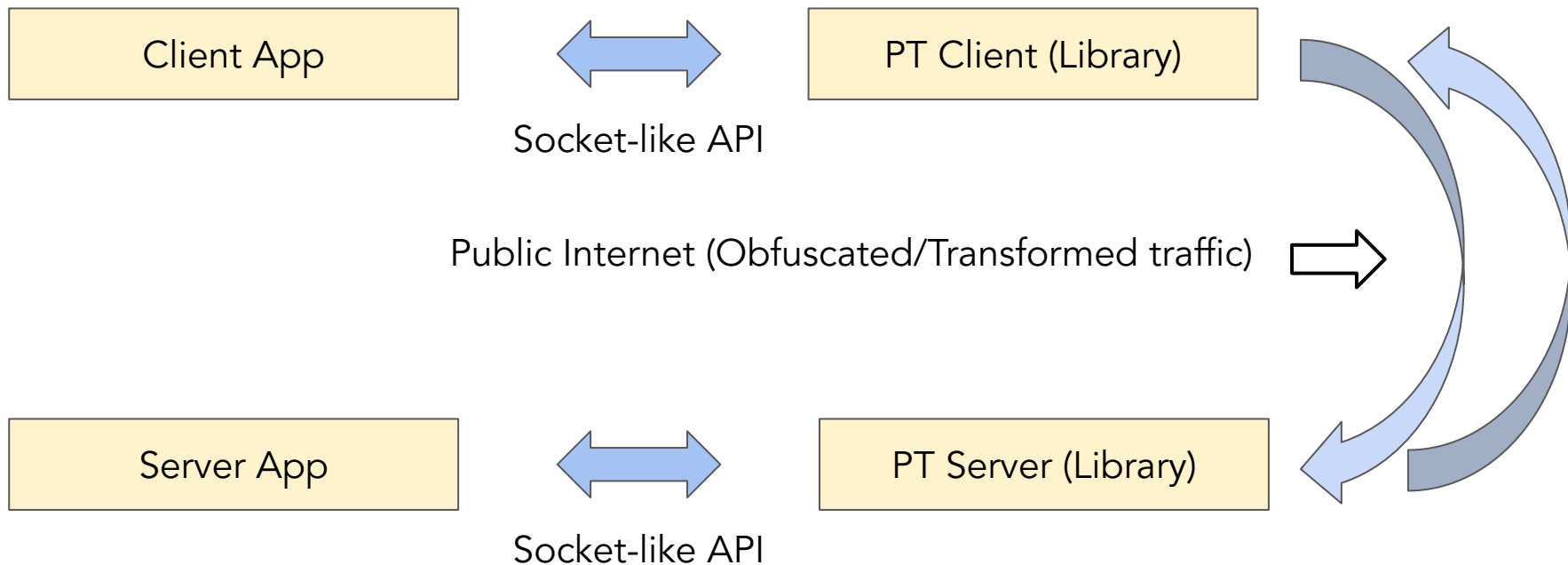
- PT Server software exposes a public proxy that accepts connections from PT Clients
- PT Client transforms traffic before it hits the public Internet; PT Server reverses this transformation before passing the traffic on to the Server App
- There is also an optional lightweight protocol to facilitate communicating connection metadata

Since it is undesirable to limit/specify what behaviors can be implemented in the transports themselves, the Pluggable Transports architecture instead focused on the interface of these technologies to applications themselves.

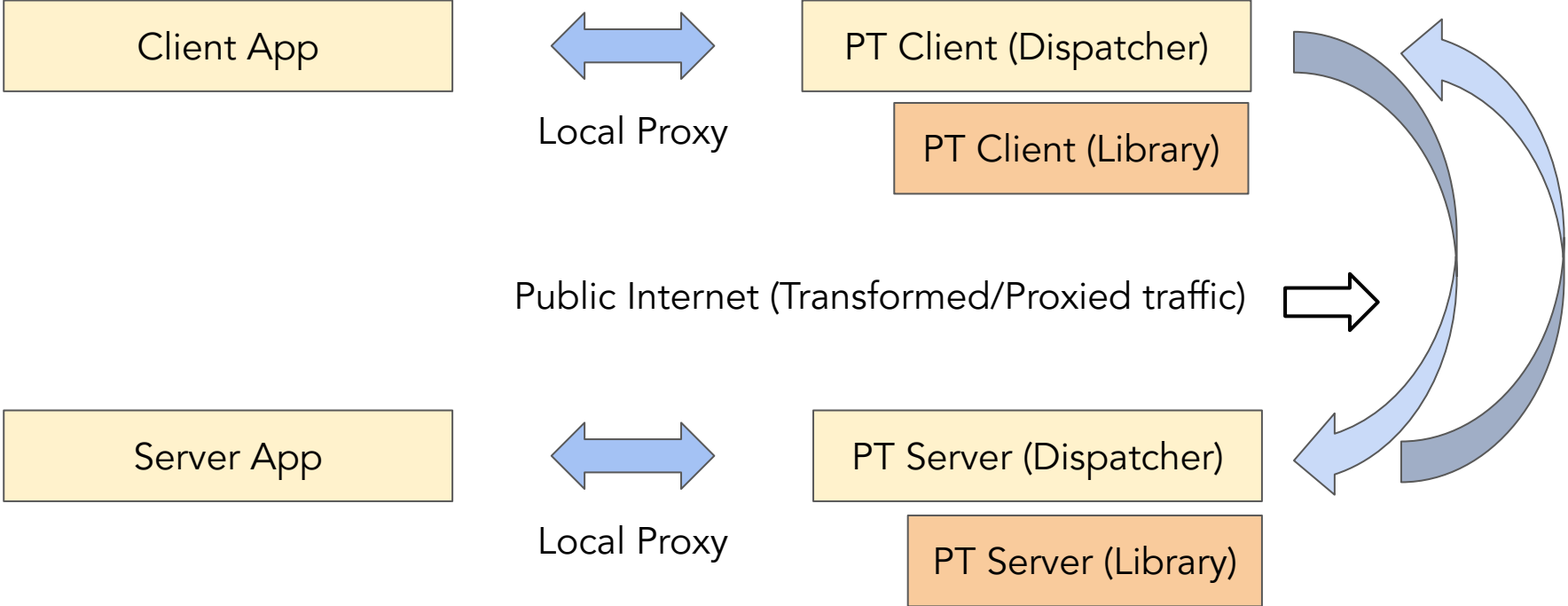
PT 2.1 Specification

- Transport API Interface
 - Using an in-process, language-specific API
 - PT Client Library is integrated directly into the Client App and the PT Server Library is integrated directly into the Server App
 - Communication through socket-like APIs
- Dispatcher API Interface
 - Using the transports as a separate process
 - On the client device, the PT Client software exposes a local proxy to the client application, and transforms traffic before forwarding it to the PT Server
 - The PT Dispatcher can be configured to provide different proxy types, supporting proxying of both TCP and UDP traffic

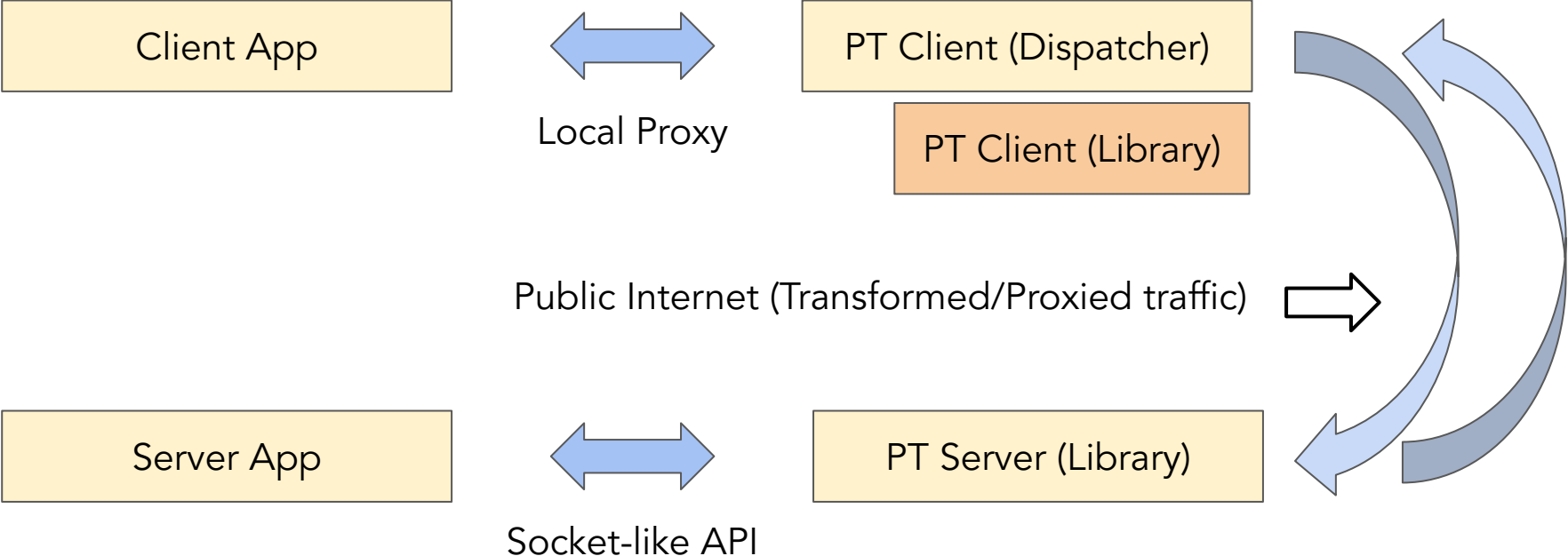
Transport API Architecture



Dispatcher API Architecture



Mix&Match Architecture



Additional Info

- API to IPC Adaptors
 - Possible to produce adaptor libraries that provide language API to Dispatcher IPC
- PT 1.0 Specification Compatibility
 - PT 1.0 was Dispatcher API only
 - Version negotiation built in
- Cross Language Linking
 - Using the Dispatcher IPC Interface In-process

QUESTIONS & DISCUSSION