

# Communicating Proxy Configurations in Provisioning Domains

draft-pauly-intarea-proxy-config-pvd-02

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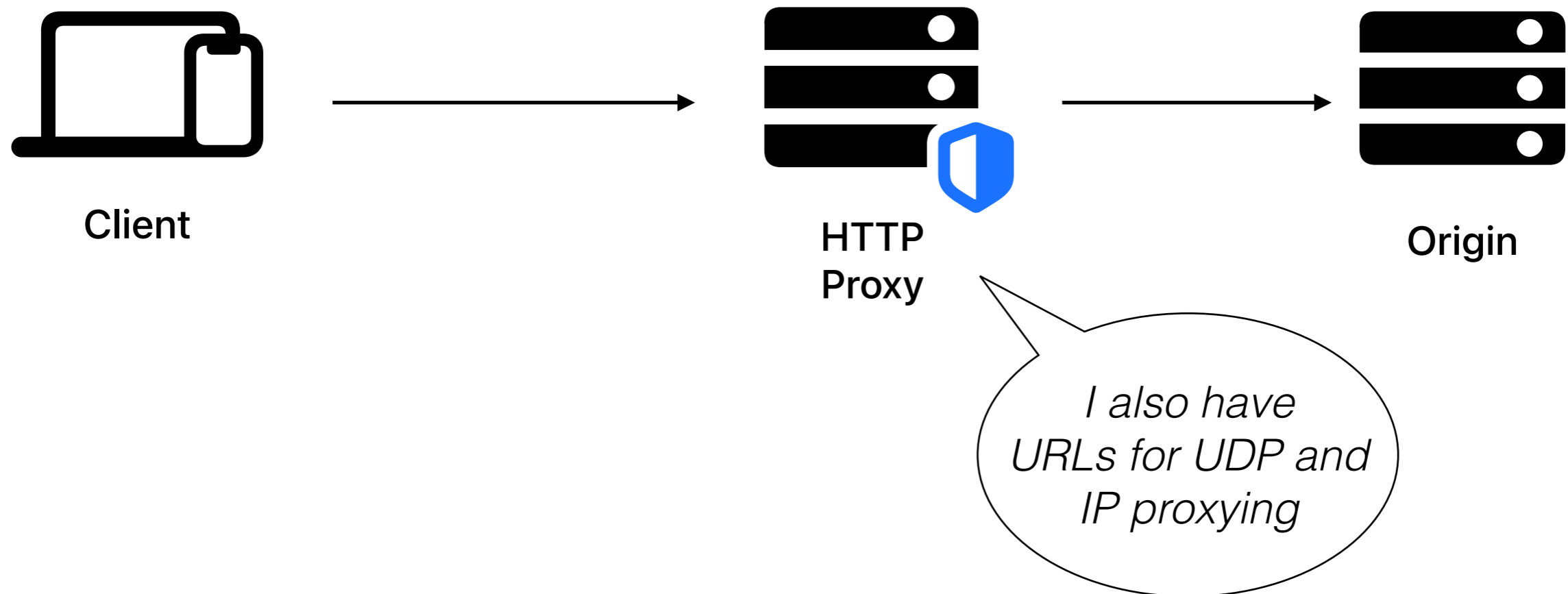
# Protocol Recap

Use the PvD (Provisioning Domain) JSON format from RFC 8801 to add support for proxies:

- Ask a known proxy about other proxy protocols it supports — upgrade to secure MASQUE protocols, etc.
- Ask a known proxy about the configuration it has (which domains are allowed, etc)
- Learn about proxies offered by a network PvD

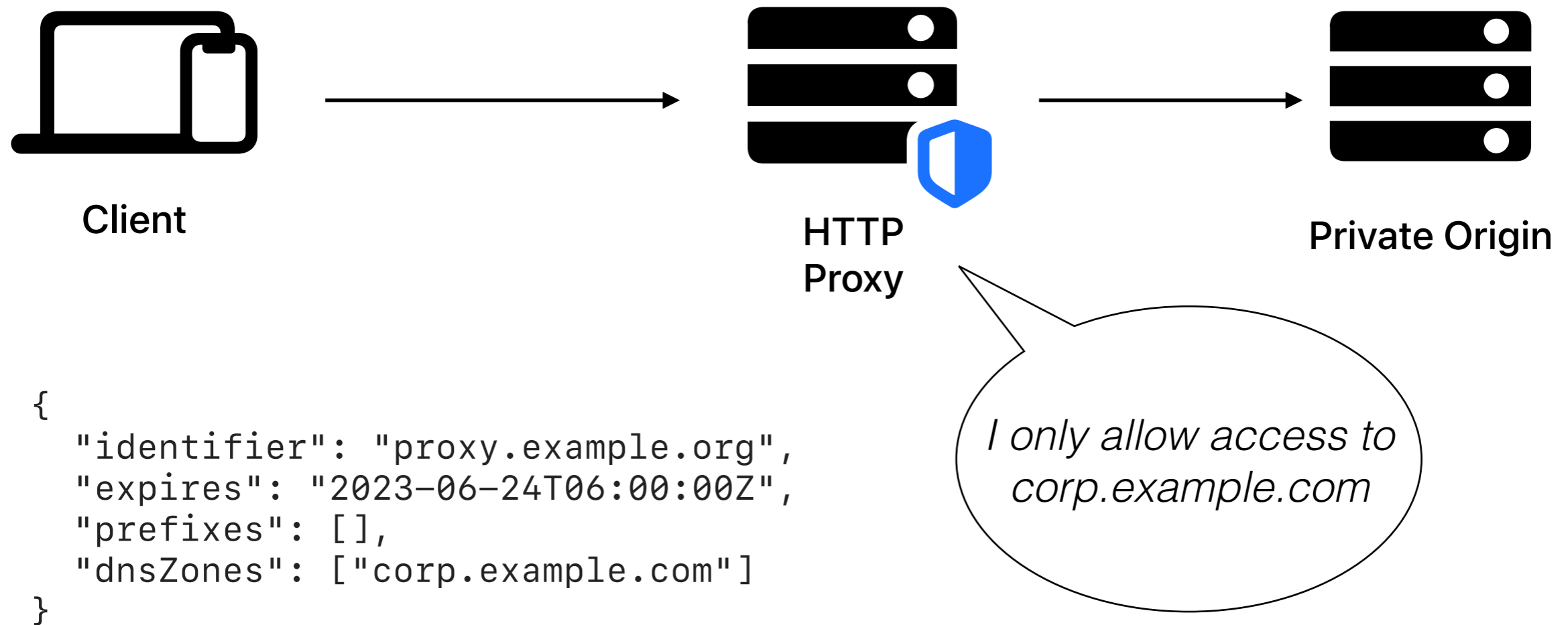
# Related proxy discovery

*Allows "upgrade" from legacy proxy types to template-based proxies (CONNECT-UDP, etc)*



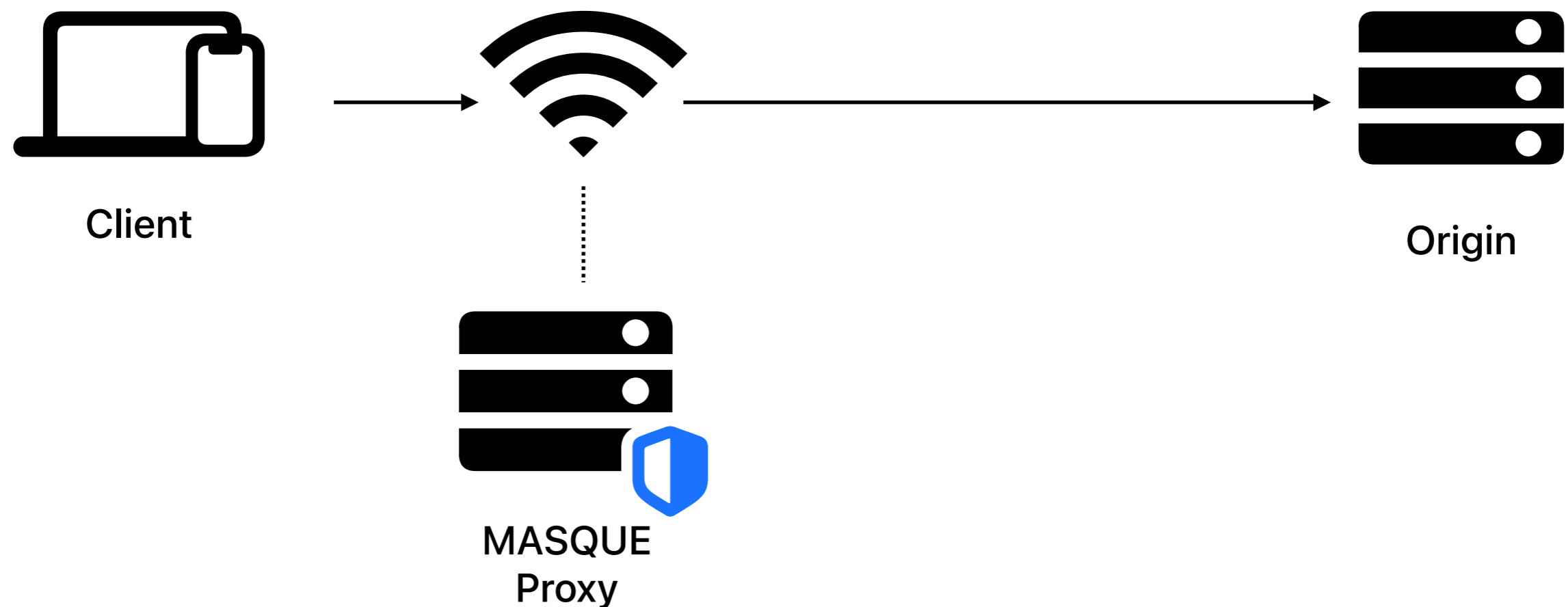
# Proxy applicability discovery (split DNS, etc)

*A proxy only allows access to certain hosts, or from certain users (not an "open" proxy)*



# Network-provided proxy discovery

*Network (ISP, carrier) provides a proxy that can assist in mobility (AT-SSS) or privacy (act as a first-hop Private Relay proxy)*



# Updated proxy details format

New in -02!

Instead of a flat list of proxies URLs, provide a structured sub-dictionary

Proxy information object contains two keys:

- `protocol`, the name of the proxy protocol
- `proxy`, the location of the proxy; a URL template, or a `host:port`

# Proxy protocol types

Current values in the draft:

- socks5
- http-connect
- https-connect
- connect-udp
- connect-ip
- connect-tcp

# Open issues:

- Handling extensibility for new keys — differentiating mandatory vs optional new keys
- Provide hints about which proxies are supported on which HTTP version
  - A server might only support connect-udp over HTTP/3, but not HTTP/2 or HTTP/1.1
- Adding support for exclusion domains for split DNS configurations
  - Should these be moved into the proxy sub-dictionaries?



# Relationship with legacy proxy discovery

PAC files and WPAD are common existing techniques

- No support for modern / secure types

- Insecure provisioning

PvD allows taking any proxy that is known (manual configuration, WPAD, etc), and "upgrading" it

Do we need to do anything else here?

# Next steps

Please review!

Adopt in INTAREA?

Implementation testing