Cloud Fellows Web Gateway

Cloud Fellows Web Gateway speaks HTTP/1.1, HTTP/2 and even HTTP/3 on both sides of a transaction. It negotiates downstream and upstream connections independently and applies one policy model across all protocols. Deploy Web Gateway as a server, reverse proxy and forward proxy in a single installation.

Protocol support: HTTP/1.1, HTTP/2 and HTTP/3

Web Gateway supports all current HTTP protocol generations, including UDP-based HTTP/3. It also supports cleartext HTTP/1.1 and H2C where required. It uses TLS ALPN, DNS HTTPS records and Alt-Svc headers to offer and discover available protocols.

Downstream and upstream connections negotiate independently. A client can connect over HTTP/2 while Web Gateway uses HTTP/3 to reach an upstream server on the Internet - or the protocol combination can be reversed.

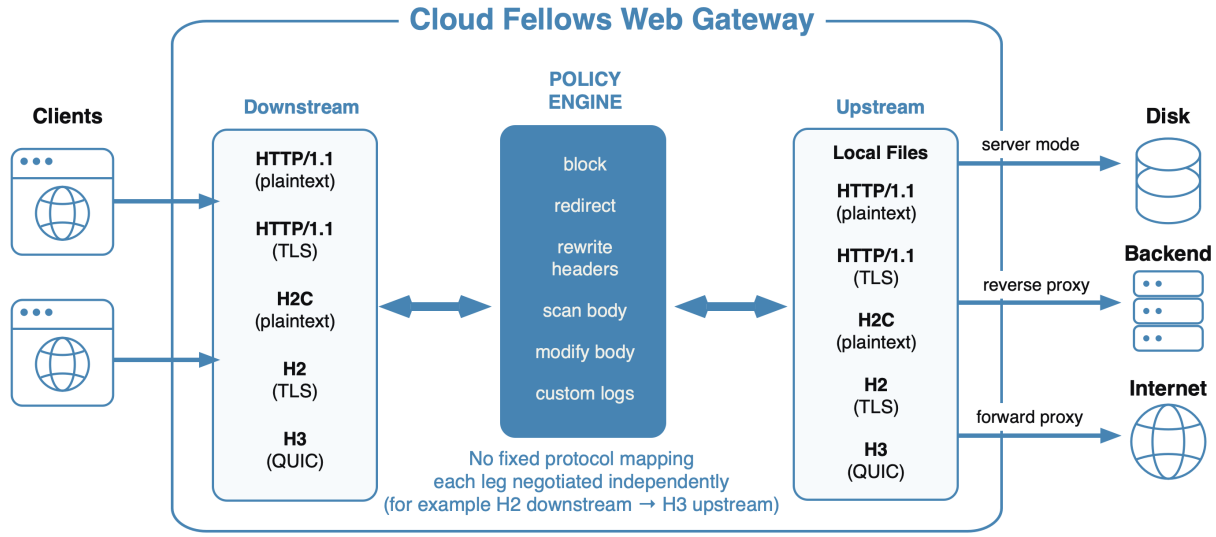
Deployment modes

Run Web Gateway as:

- a server for local web content;
- a reverse proxy in front of your applications;
- a forward proxy for outbound client traffic; or
- a mixed deployment combining these roles in one process and configuration.

Integrated DNS and protocol advertisement

The integrated DNS service can override answers and synthesize HTTPS/SVCB records. It also controls client-facing Alt-Svc advertisement independently of upstream protocol discovery and selection.



Policy across all protocols

The policy engine presents the same request and response model across HTTP/1.1, HTTP/2 and HTTP/3. Policy can inspect and modify headers and streaming body content, block traffic, generate responses, redirect requests, control routing and add custom fields to logs.

Policies subscribe only to the transaction stages they need. This permits deep, programmable inspection without imposing the cost of every policy trigger on every transaction.

Flexible policy-engine architecture

The supplied Python engine demonstrates the full flexibility of a language-neutral policy contract, including repeated streaming-body decisions and control of transaction flow. The architecture can accommodate partner-specific policy engines for OEM products and specialized security solutions.

Certificates and TLS

The integrated ACME client supports DNS-01 and TLS-ALPN-01 challenges and automatic certificate renewal. Web Gateway can also use externally issued certificates or generate a self-signed certificate for immediate first use.

An encrypted secrets store protects certificate keys and other secrets. Forward-proxy deployments can use a dedicated signing CA, while upstream TLS validation remains under policy control.

Purpose-built architecture

Web Gateway is implemented in C++20 as a highly asynchronous, single-process system with minimal external dependencies. Its QUIC and HTTP/3 implementation is Cloud Fellows' own code - not a wrapper around a third-party QUIC library.

A compact foundation for standalone deployments, embedded solutions and OEM integration.

Cloud Fellows GmbH • Hünenweg 15 • 33104 Paderborn, Germany • sales@cloudfellows.de