Oblivious Proxy Feedback

draft-rdb-ohai-feedback-to-proxy-01
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Problem

- Excessive traffic from a oblivious proxy to an target will cause target to rate-limit that proxy
- Rate-limiting the oblivious proxy harms all clients using that proxy
Proposal

• Signal overload from server to oblivious proxy
• Proxy uses the feedback to rate limit transactions from overzealous or misbehaving clients.

• draft-ietf-httpapi-ratelimit-headers publishes quotas (or service limits) to clients.
New HTTP Header

- New Ohai-Proxy-Feedback Header provides feedback from request/target resource to the proxy.
- The proxy must remove the header before sending the HTTP response to client.
Example Message Flow

Client → Encapsulated Request → Proxy Resource → Request Resource → Target Resource

Encapsulated Request

Proxy applies rate-limit for the offending client

Encapsulated Response

Malicious Request

200 Response + Ohai-Proxy-Feedback + Encapsulated 400 response

400 Response + Ohai-Proxy-Feedback
Ohai-Proxy-Feedback parameters

- Added parameters to align with the fields in draft-ietf-httpapi-ratelimit-headers draft.
- RateLimit-p-Limit: Max requests from the proxy.
- RateLimit-p-outstanding-Limit: Max outstanding requests from the proxy.
- RateLimit-Limit: Max requests server is willing to accept from a client attacking the server.
- RateLimit-Outstanding Limit: Max outstanding requests server is willing to accept from client attacking the server.
- RateLimit-p-Reset, RateLimit-p-outstanding-Reset, RateLimit-Reset and RateLimit-outstanding-Reset : Number of seconds until the RateLimit-*-Limit quota resets.
Security Considerations

• Convey the header only to trusted proxies.
  ❏ Proxy can collude with attacking clients to leak the Feedback information to help change the attack strategy.
• Comments and suggestions are welcome.