Cache

HTTP Working Group, IETF 103 Bangkok

X-Cache

“Each CDN out there uses different debug headers and some don’t send anything back.”

– Mehdi Daoudi, Catchpoint CEO

http://blog.catchpoint.com/2017/02/27/debugging-cdns-need-change/

Squid

Response:

X-Cache: HIT from proxy.domain.tld, MISS from proxy.local
X-Cache-Lookup: HIT from proxy.domain.tld:3128, MISS from proxy.local:3128

Resources:

https://lyte.id.au/2014/08/28/x-cache-and-x-cache-lookupheaders/
[note lack of Squid documentation]

Akamai

Request:

Pragma: akamai-x-cache-on
Pragma: akamai-x-check-cacheable
akamai-x-cache-remote-on
akamai-x-get-extracted-values
akamai-x-get-nonces
akamai-x-get-ssl-client-session-id
akamai-x-get-cache-key
akamai-x-get-true-cache-key
akamai-x-serial-no

Response:

X-Cache: TCP_MEM_HIT from a168-187-253-133 (AkamaiGHost/6.14.4-12151432) (-)
X-Check-Cacheable: YES
X-Cache-Key: S/L/2649/75069/6h/www.example.com/common/global.html
X-True-Cache-Key: /L/www.example.com/common/global.html
X-Serial: 2649
X-Akamai-FEO-State
X-AKAMAI-STAGING: ESSL

Resources:

https://prakhar.me/articles/debugging-akamai/
https://community.akamai.com/customers/s/article/Using-Akamai-Pragma-headers-to-investigate-or-troubleshoot-Akamai-content-delivery
https://support.globaldots.com/hc/en-us/articles/115003996705-Akamai-Pragma-Headers-overview

Cloudflare

Response:

Cf-Railgun: direct (waiting for pending WAN connection)
CF-RAY: 2bfb939a0a57440e-SFO-DOG
CF-Cache-Status: HIT

Status Codes:

520 Unknown Error
521 Web Server is Down
522 Connection Timed Out
523 Origin is Unreachable
524 A Timeout Error
525 SSL handshake failed
526 Invalid SSL certificate
527 Railgun Listener to Origin Error
530 Origin DNS Error

Resources:

https://support.cloudflare.com/hc/en-us/articles/222971907-Using-cURL-when-Troubleshooting-with-CloudFlare
https://support.cloudflare.com/hc/en-us/articles/115003011431/

Fastly

Request:

Fastly-Debug: 1

Response:

Fastly-Debug-Path: (D cache-ord1722-ORD 1470672957) (F cache-ord1743-ORD 1470672629) (D cache-jfk1041-JF
1470672629) (F cache-jfk1030-JFK 1470672554)
Fastly-Debug-TTL: (H cache-ord1722-ORD 85997.246 0.000 403) (H cache-jfk1041-JFK - - 75)
X-Served-By
X-Cache
X-Cache-Hits

Resources:

https://docs.fastly.com/guides/debugging/checking-cache.html
https://community.fastly.com/t/deciphering-fastly-debug-header/520

Cloudfront

Responses:

X-Cache

Resources:

https://aws.amazon.com/premiumsupport/knowledge-center/cloudfront-x-cachemiss-error/

Traffic Server

Request:

X-Debug: log-headers

Response:

X-Cache-Key
X-Cache
C-Cache-Generation
X-Milestones
X-Transaction-ID
X-Remap

Resources:

https://docs.trafficserver.apache.org/en/latest/admin-guide/plugins/xdebug.en.html

X-Cache is the low-hanging fruit.
But, it's not interoperable.
Therefore, create a better header without the X-.

```
Cache: HIT_FRESH; node="reverse-proxy.example.com:80";
                  key="https://example.com/foo|Accept-Encoding:gzip",
  HIT_STALE; node="FooCDN parent"; fresh=-45; age=200; latency=3,
  MISS; node="FooCDN edge"; fresh=-45; age=200; latency=98
```

Notable design features

- Only intended for cache state
- Parameters are optional
- Negotiation is out of scope
- Uses structured headers

Possible sticking points

- Exact semantics of cache actions
- Vendor-specific extensions