

Enabling HTTP/2.0 Optimization On SteelHead


Categories: SteelHead

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 **Issue**

How to enable HTTP/2.0 optimization on SteelHead?

 **Solution**

HTTP/2.0 optimization is available starting RiOS versions 9.6 and provides data compression and reduction optimization support for HTTP/2.0 without latency optimization from the application layer. Starting RiOS 9.8 we support latency optimization for HTTP/2 traffic.

Properties of HTTP/2.0:

- HTTP/2.0 allows concurrent transactions on a connection without head of line blocking
- The new version of the protocol no longer requires domain "sharding" for fast page loads
- HTTP/2.0 uses the same ports and addresses as HTTP/1
- The HTTP version is being negotiated on during the SSL connection establishment, so a site can support non-HTTP/2.0 browsers
- HTTP/2 is defined for both HTTP URIs (i.e. without encryption) and for HTTPS URIs (over TLS using ALPN extension where TLS 1.2 or newer is required).
- Although the HTTP/2 standard itself does not require usage of encryption, most client implementations (Firefox, Chrome, Safari, Opera, IE, Edge) have stated that they will only support HTTP/2 over TLS, which makes encryption de facto mandatory.

Most vendors limit the support of HTTP/2.0 to secure connection via ALPN (Application-Layer Protocol Negotiation). On SteelHead 9.6 and above ALPN support is turned **on** by default to allow HTTP/1 negotiation. More information on ALPN can be found here: <https://tools.ietf.org/html/rfc7301>

To enable the HTTP blade to optimize HTTP/2.0 traffic, simply ensure that end-to-end TLS v1.2 and ALPN are enabled on both SteelHeads (default).

Enter the below commands on the CLI of both client-side (CFE / C-SH) and server-side (S-SH / SFE) SteelHeads:

```
SteelHead # protocol ssl backend client-tls-1.2
SteelHead # protocol ssl backend alpn-forward enable
```

IMPORTANT: The above steps require a service restart of optimization service to take effect. The approximate downtime is around 5 seconds and is recommended to be completed during a maintenance window to avoid traffic interruption.

 **Environment**

SteelHead 9.6 and above.