Display & Video 360

## User-Agent Client Hints (UA-CH)

User-Agent Client Hints are a new expansion to the Client Hints API, that enables developers to access information about a user's browser in a privacy-preserving way.

Client Hints enable developers to actively request information about the user's device or conditions, rather than needing to parse it out of the User-Agent (UA) string. Providing this alternative route is the first step to eventually reducing User-Agent string granularity.

To take advantage of the new APIs for programmatic advertising, DV360 has added support for receiving structured user agent data in bid requests. The User-Agent Client Hints headers can be passed in an extension under the 'device' object called 'user_agent_data'.

The following subfields under 'device.ext.user_agent_data' are supported, and should be populated with the results of the corresponding 'Sec-CH-UA' headers:

| JSON field | Type | 'Sec-CH-UA' source | Example |
|---|---|---|---|
| rawChUa | string | Sec-CH-UA | '" Not;A Brand";v="99", "Google Chrome";v="91", "Chromium";v="91"' |
| fullVersion | string list | Sec-CH-UA-Full-Version | ['84', '0', '4143', '2'] |
| browser | object list | Sec-CH-UA after parsing. See parsing notes below | |
| browser.brand | string | Sec-CH-UA after parsing. See parsing notes below | 'Google Chrome', ' Not;A Brand' |
| browser.version | string list | Sec-CH-UA after parsing. See parsing notes below | ['91'] or |
| platform | object | | |
| platform.brand | string | Sec-CH-UA-Platform | 'Android' |
| platform.version | string list | Sec-CH-UA-Platform-Version | ['10'] or ['10', '1'] |
| platform.bitness | string | Sec-CH-UA-Bitness | '32' or '64' |
| mobile | integer | Sec-CH-UA-Mobile | 0 or 1 |

| architecture | string | Sec-CH-UA-Arch | 'arm' |
| model | string | Sec-CH-UA-Model | 'Pixel 4' |

For example, the following Sec-CH-UA headers

Sec-CH-UA: " Not;A Brand";v="99", "Google Chrome";v="91", "Chromium";v="91"
Sec-CH-UA-Mobile: ?1
Sec-CH-UA-Full-Version: "84.0,4143."
Sec-CH-UA-Bitness: "32"
Sec-CH-UA-Arch: "ARM"
Sec-CH-UA-Model: "Pixel 4"
Sec-CH-UA-Platform: "Android"

would result in the following data in a bid request

'device': {
  ...
  'ext': {
   'user_agent_data': {
    'rawChUa' : '" Not;A Brand";v="99", "Google Chrome";v="91", "Chromium";v="91",
    'browser': [{' Not;A Brand': '99'}, {'Google Chrome': '91'}, {'Chromium': '91'}],
    'platform': { 'brand' : 'Android', 'version' : ['10', '2'], 'bitness': '32'},
    'mobile': 1,
    'architecture': 'ARM',
    'model': 'Pixel 4'
   }
  }
}

Note: if rawChUa is populated, browser is optional and can be omitted.

If you receive an OpenRTB bid request from an upstream source that includes user_agent_data, it should be passed along without modification.

**Parsing Notes**
The 'Sec-CH-UA' header has an RFC 8941 Structured Field Value. Some exchanges may choose to parse the 'Sec-CH-UA' header into a list of browser (brand, version) pairs and pass these in the browser object list instead of, or in addition to the rawChUa field.

If the 'Sec-CH-UA' is parsed, all browser (brand, version) pairs should be included in the OpenRTB request, and the order in the json list should match the order in the 'Sec-CH-UA' header.