OpenRTB Advisory - GDPR

February 8, 2018

About the IAB Tech Lab

The IAB Technology Laboratory (IAB Tech Lab) is a nonprofit research and development consortium charged with producing and helping companies implement global industry technical standards and solutions. The goal of the Tech Lab is to reduce friction associated with the digital advertising and marketing supply chain while contributing to the safe growth of the industry.

The IAB Tech Lab spearheads the development of technical standards, creates and maintains a code library to assist in rapid, cost-effective implementation of IAB standards, and establishes a test platform for companies to evaluate the compatibility of their technology solutions with IAB standards, which for over 20 years have been the foundation for interoperability and profitable growth in the digital advertising supply chain.

License

TABLE OF CONTENTS

OVERVIEW

Background on GDPR

The General Data Protection Regulation (GDPR) (Regulation (EU) 2016/679) is a regulation by which the European Parliament, the Council of the European Union and the European Commission intend to strengthen and unify data protection for all individuals within the European Union (EU). It also addresses the export of personal data outside the EU. The GDPR aims primarily to give greater control to EU citizens and residents over their personal data. The regulation was adopted in April 2016 and becomes enforceable from May 25, 2018 after a two-year transition period.

An important aspect of GDPR is the acquisition and conveyance of user consent over how their personal data may be used (i.e., "purposes") and by whom (i.e., "companies"). By default, consent is not granted and users must explicitly opt-in with an option of doing so at a very granular level (i.e., by company, by purpose if desired). IAB Europe is leading an industry consortium to define these purposes as they are not explicitly stated in the GDPR.

This effort has also led to an industry standard method of defining and encoding user consent, recently released in draft form. With respect to impact on the OpenRTB (Real-Time Bidding) protocol, we can assume that all details of user consent in the context of a given ad opportunity will be encoded into a string known simply as the "consent string" which must be conveyed throughout the transaction along with a signal that GDPR regulations are in effect, which may carry additional responsibilities beyond that of user consent.

Please refer to the "Additional Resources" section for links to more detailed information about the IAB Europe consent management standard, for the structure and functional interpretation of the consent string, and for GDPR in general.

OpenRTB Specification Versions

As of the writing of this advisory, the current version of OpenRTB is v2.5. Earlier v2.x versions are also in wide use. The original OpenRTB v1.0 Mobile is old enough and in such minimal use as to be considered deprecated.

Under a broader IAB OpenMedia initiative estimated to release in Q2 2018, OpenRTB v3.0 is currently in development along with a new specification called AdCOM (Advertising Common Object Model). The new specification structure will provide a clear separation of layers. OpenRTB v3.0 will specify the transaction layer, which includes those aspects related specifically to buying and selling. AdCOM will specify the domain layer, which includes aspects related to impressions, ads, and other contextual objects. The two specifications will combine at runtime to form the familiar OpenRTB artifacts.

Document Purpose & Scope

We defer to the IAB Europe led design for GDPR consent acquisition and encoding and stipulate that this will evolve into an IAB standard. This advisory, therefore, focuses on how active versions of OpenRTB will signal GDPR applicability and convey the consent string, which is treated as a single unit of data to be conveyed throughout a real-time bidding transaction. Production and consumption of this consent string is beyond the scope of OpenRTB and this advisory. Furthermore, this advisory is not an authoritative source of information on GDPR. Ad-tech practitioners are strongly encouraged to become familiar with GDPR and user consent in order to determine the impact on their platforms and businesses.

SPECIFICATION

Since the following suggests additions to current specification versions, the standard extension mechanism must be used. OpenRTB generally does not dictate how companies use extensions. However, the impact of GDPR is imminent and pervasive throughout the OpenRTB community and standardization will be key.

As a result:

IAB Tech Lab and the OpenRTB Commit Group strongly urge all parties to conform to the following recommendations on extended attributes and their placements, types, and definitions.

OpenRTB v2.x Objects Impacted

There are two objects from the v2.x specifications that are impacted: "`User`" and "`Regs`". These are shown here as presented in the v2.5 specification for context and convenience.

Object: User

This object contains information known or derived about the human user; the audience for advertising and the primary subject of GDPR regulations.

Attribute	Type	Definition
id	string; recommended	Exchange-specific ID for the user. At least one of id or buyeruid is recommended.
buyeruid	string; recommended	Buyer-specific ID for the user as mapped by the exchange for the buyer. At least one of buyeruid or id is recommended.
yob	integer	Year of birth as a 4-digit integer.
gender	string	Gender, where "M" = male, "F" = female, "O" = known to be other (i.e., omitted is unknown).
keywords	string	Comma separated list of keywords, interests, or intent.
customdata	string	Optional feature to pass bidder data that was set in the exchange's cookie. The string must be in base85 cookie safe characters and be in any format. Proper JSON encoding must be used to include "escaped" quotation marks.
geo	object	Location of the user's home base defined by a Geo object. This is not necessarily their current location.
data	object array	Additional user data. Each Data object represents a different data source.
ext	object	Optional exchange-specific extensions.

Object: Regs

This object contains any legal, governmental, or industry regulations that apply to the request. Previously this only included a COPPA signal, but clearly GDPR applicability falls in this signal category.

Note that this object was introduced in OpenRTB v2.2.

Attribute	Type	Definition
coppa	integer	Flag indicating if this request is subject to the COPPA regulations established by the USA FTC, where 0 = no, 1 = yes.
ext	object	Optional exchange-specific extensions.

Advised Extensions

OpenRTB v2.2 - v2.5

An exchange must determine whether or not it believes that GDPR is in effect for a given auction. This may be via a signal by the publisher who has come to this conclusion, detecting that the user is located in an EU nation, or by some other means. Please consult official GDPR resources or legal counsel for making this determination.

The "Regs" object will signal whether or not the request is subject to GDPR regulations. It will do so via the extension attribute "gdpr" which is an optional integer that indicates: 0 = No, 1 = Yes. Under OpenRTB conventions for optional attributes, omission indicates Unknown.

<div align="center">Regs.ext.gdpr</div>

The "User" object will convey user consent when GDPR regulations are in effect. It will do so via the extension attribute "consent" which is an optional string that contains the data structure developed by the GDPR Consent Working Group under the auspices of IAB Europe. A link to this specification including its structure and functional interpretation can be found in the "Additional Resources" appendix.

<div align="center">User.ext.consent</div>

The user consent string is optional, but highly recommended if the request is subject to GDPR regulations (i.e., Regs.ext.gdpr = 1). The default sense of consent under GDPR is "opt-out" and as such, an omitted consent string in a request subject to GDPR would need to be interpreted as equivalent to the user fully opting out of all defined purposes for data use by all parties.

OpenRTB v2.0 - v2.1

The "Regs" object was first introduced into the OpenRTB specification in v2.2. For anyone still using an older version, we recommend including both attributes in the "User" object as follows:

<div align="center">User.ext.gdpr
User.ext.consent</div>

Look-Ahead to OpenRTB v3.0

As cited previously, OpenRTB v3.0 will be separated into a transaction layer specification (i.e., the new scope of OpenRTB) and a domain layer via the new AdCOM specification.

Under this structure, the "`Regs`" and "`User`" objects will continue to exist and be conveyed in bid requests although their structure will be defined in the AdCOM specification. When these are finalized, the AdCOM specification is expected to include these same GDPR attributes, but promoted from extensions into their main objects as follows:

```
Regs.gdpr
User.consent
```

On a related note, OpenRTB v3.0 and AdCOM will support the concept of digitally signing bid requests based on certain attributes that by definition must be immutable throughout the flow of a transaction. This allows buyers to detect any tampering with these fields. These GDPR fields and the consent field in particular are likely to be part of this digital signature so that downstream entities can be assured of tamper-free consent information.

Appendix A: Additional Resources

EU GDPR Home Page
https://www.eugdpr.org

Wikipedia - GDPR
https://en.wikipedia.org/wiki/General_Data_Protection_Regulation

IAB Europe GDPR and ePrivacy Research
https://www.iabeurope.eu/category/policy/data-protection/

GDPR Consent String Specification (to be released soon)
http://advertisingconsent.eu/

Interactive Advertising Bureau Technology Laboratory (IAB Tech Lab)
www.iabtechlab.com

IAB Tech Lab OpenRTB Project
https://iabtechlab.com/openrtb

OpenRTB Specification v2.5
https://www.iab.com/wp-content/uploads/2016/03/OpenRTB-API-Specification-Version-2-5-FINAL.pdf