

EXHIBIT W

**REDACTED VERSION OF DOCUMENT(S)
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July 24, 2015

VIA E-MAIL

Joshua Jessen, Esq.
Gibson, Dunn & Crutcher LLP
1881 Page Mill Road
Palo Alto, California 94304
jjessen@gibsondunn.com

RE: *Campbell v. Facebook, Inc.*, N.D. Cal. Case No. 13-cv-05996-PJH

Dear Josh:

I write regarding Plaintiffs' Interrogatory No. 8 and Request for Production No 41.

As an initial matter, to the extent Facebook objects to the terms used in Interrogatory No. 8, these are Facebook's employees' own terms used to describe Facebook's internal data systems in a presentation at a public symposium. See Bronson, et al, TAO: Facebook's Distributed Data Store for the Social Graph, USENIX ATC'13 Proceedings of the 2013 USENIX conference on Annual Technical Conference, § 3.1 (June, 2013)¹ (the "Bronson Article"). As such, at this stage in the case, it is Facebook, not Plaintiffs, that is in the best in position to define and understand these terms.

For reference, Interrogatory No. 8. requests that Facebook:

Identify all facts relating to the Processing of each Private Message sent or received by Plaintiffs containing a URL², including, for each Private Message:

(A) all Objects that were created during the Processing of the Private Message, including the (id) and the Object Type for each

¹ Available at <https://research.facebook.com/publications/161988287341248/tao-facebook-s-distributed-data-store-for-the-social-graph/>.

² Each such Private Message has been identified by each Plaintiff in Exhibit 1 to his respective Objections and Responses to Defendant's First Set of Interrogatories.

Object, as well as any Key -> Value Pair(s) contained in each Object;

(B) all Objects that were created specifically when the embedded URL was shared, including the (id) and the Object Type for each Object, as well as any Key -> Value Pair(s) contained in each Object;

(C) all Associations related to each Private Message, identified by the Source Object, Association Type, and Destination Object, as well as any Key -> Value Pair(s) contained in each Association;

(D) the database names and table names in which each Association and Object is stored;

(E) each application or feature in Facebook that uses the Objects or Associations created for each Private Message; and

(F) how each Object associated with the Private Message was used by Facebook.

The terms “id,” “Objects,” “Object Type,” “Source Object,” “Destination Object,” “Association,” “Association Type,” and “Key -> Value Pair” are all used in the Bronson Article in the context of describing Facebook’s TAO data store. As described at page 50 of the Bronson Article:

TAO objects are typed nodes, and TAO associations are typed directed edges between objects. Objects are identified by a 64-bit integer (id) that is unique across all objects, regardless of object type (otype). Associations are identified by the source object (id1), association type (atype) and destination object (id2). At most one association of a given type can exist between any two objects. Both objects and associations may contain data as key→value pairs. A per-type schema lists the possible keys, the value type, and a default value. Each association has a 32-bit time field, which plays a central role in queries.

Objects and associations are further described in the Bronson Article as follows:

Object: (id) → (otype, (key value)*)

Assoc.: (id1, atype, id2) → (time, (key value)*)

Additionally, Facebook's interrogatory responses discuss the creation of "share objects" which are created when a URL is embedded in a Private Message. *See, e.g.*, Facebook's Response to Plaintiffs' Interrogatory No. 2.

Consistent with and pursuant to these descriptions, Plaintiffs seek identification and data production of each of the Objects and Associations created when Facebook processed Plaintiffs' Private Messages containing a URL. With respect to a written interrogatory response, Plaintiffs request a list of all the Objects and Associations created during the process of sending these Private Messages. With respect to data production—which is equally important—Plaintiffs request that this data be produced in a standard data format, preferably JSON, though XML, CSV, or other common standard formats would be acceptable if production in JSON is not possible.

For each Object, in addition to its identifier, Plaintiffs request identification and production of the Object's attributes. For example, for Facebook individual users, this information would include the user's first and last name, gender, age range, etc. For Facebook pages, this could include the title and id in the relevant URL. For external URLs, it would include relevant Open Graph data, like page title and description. Generally, for each Object, Plaintiffs request enough information about it that Plaintiffs can determine the identity of that Object and how it might be used by applications within Facebook.

As we discussed, in the interest of compromise, Plaintiffs are amenable to initially limiting the production of this information to a subset of the total messages at issue, though Plaintiffs reserve the right to seek this data for further messages. Plaintiffs request this information for the following messages identified in the table attached as Exhibit 1 to Mr. Hurley's Response to Facebook's First Set of Interrogatories:

	To	From	Date	URL
1	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
2	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
3	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
4	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
5	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
6	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

	To	From	Date	URL
			11:54pm PDT	
7	[REDACTED]	[REDACTED]	[REDACTED] [REDACTED]	[REDACTED] [REDACTED] [REDACTED]
10	[REDACTED]	[REDACTED]	[REDACTED] [REDACTED]	[REDACTED] [REDACTED]

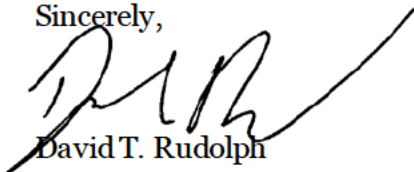
Plaintiffs additionally request this information for the following messages identified in the table attached as Exhibit 1 to Mr. Campbell's Response to Facebook's First Set of Interrogatories:

	To	From	Date	URL
68	[REDACTED]	[REDACTED]	[REDACTED] [REDACTED]	[REDACTED] [REDACTED]
89	[REDACTED]	[REDACTED] [REDACTED]	[REDACTED] [REDACTED]	[REDACTED] [REDACTED]
93	[REDACTED]	[REDACTED] [REDACTED]	[REDACTED] [REDACTED]	[REDACTED] [REDACTED] [REDACTED]
99	[REDACTED]	[REDACTED]	[REDACTED] [REDACTED]	[REDACTED] [REDACTED] [REDACTED]
113	[REDACTED] [REDACTED] [REDACTED]	[REDACTED]	[REDACTED] [REDACTED]	[REDACTED] [REDACTED] [REDACTED] [REDACTED]
115	[REDACTED]	[REDACTED]	[REDACTED] [REDACTED]	[REDACTED] [REDACTED] [REDACTED]
123	[REDACTED] [REDACTED] [REDACTED]	[REDACTED]	[REDACTED] [REDACTED]	[REDACTED] [REDACTED]
200	[REDACTED]	[REDACTED]	[REDACTED] [REDACTED]	[REDACTED] [REDACTED] [REDACTED]

	To	From	Date	URL
				[REDACTED]
410	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
654	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
482	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

Please let us know when Facebook will produce this information and data. As we discussed during the July 9 in-person meet and confer, if Facebook does not agree to produce this information and data, Plaintiffs will seek relief from the Court. We request a written response and data production consistent with the above by no later than August 3, 2015.

Sincerely,



David T. Rudolph

DTR/wp