EXHIBIT 12

IN THE UNITED STATES DISTRICT COURT

FOR THE EASTERN DISTRICT OF VIRGINIA

I/P ENGINE, INC., Plaintiff, v. AOL, INC., GOOGLE INC., IAC SEARCH & MEDIA, INC., TARGET CORP., and GANNETT CO., INC. Defendants.	)	C.A. No. 2:11-cv-512-RAJ **JURY TRIAL DEMANDED**

REPORT OF DEFENDANTS' EXPERT LYLE H. UNGAR, PH.D., CONCERNING NONINFRINGEMENT

CONFIDENTIAL – OUTSIDE COUNSEL ONLY

V. GOOGLE DOES NOT INFRINGE THE ASSERTED CLAIMS

137. The '420 and '664 Patents do not read on or apply to the accused Google products and services. There is a broad mismatch between the simplistic search engine system claimed in the patents and the machine learning-based systems used with the auction systems accused of infringing the patents.

A. '420 Patent

1. AdWords does not scan a network to make a demand search for informons relevant to a query from an individual user. (Claim 10[a], 25[a]).

138. Independent claims 10[a] and 25[a] of the '420 Patent require "scanning a network to make a demand search for informons relevant to a query from an individual user." The Court has construed "scanning a network" as "looking for or examining items in a network." The Court has also construed "demand search" as "a single search engine query performed upon a user request."

139. In his report, Dr. Frieder asserts that "[t]he AdWords system looks for or examines items in a network when it performs targeting to find advertisements relevant to the query… the advertisements are stored on multiple computers on a network, and the targeting step involves looking for an examining the items on this network." (Frieder at 26.)

140. There is a broad disconnect between searching or looking for informons on a network—which the specification describes and the claims as construed by the Court require—and looking up items on a database by their identifiers. As an initial matter, a database is not a network. As known to one of skill in the art, a database contains an ***organized*** set of information.

141. The asserted patents similarly distinguish databases on their ability to rapidly look up information:

> In the next stage of filtering, one embodiment of content-based indexing takes an A that has been processed into the set of C that describe it, and determine which M should accept the article for subsequent filtering, for example, detailed indexing of incoming A. It is preferred that a data structure including a database be used, so that the vector of Ms, that are related to any concept C, may be looked-up.

(13:62-14:1.)

142. In contrast, information stored on a network is famously *un*-organized, as the parent '799 patent explains:

> Recent developments in computer networking, particularly with regard to global computer internetworking, offer vast amounts of stored and dynamic information to interested users. Indeed, some estimate that hundreds of thousands of news articles stream through the global internetwork each day, and that the total number of files transferred through the global internetwork (hereinafter "network") is in the millions. As computer technology evolves, and as more users participate in this form of communication, the amount of information available on the network will be staggering.
>
> Although databases are relatively static and can be searched using conventional network search engines, current information filtering schemes are ill-suited to thoroughly search the massive, dynamic stream of new information passing through the network each day.
>
> Presently, the information is organized, **if at all**, to the extent that only skilled, persistent, and lucky, researchers can ferret out meaningful information....From the perspective of some users, a few items of meaningful "information" can be obscured by the volume of irrelevant data streaming through the network.
>
> ...
>
> What is needed then is an apparatus and method for information filtering in a computer system receiving a data stream from a computer network in which entities of information relevant to the user, or "informons," are extracted from the data stream using content-based and collaborative filtering.

('799 patent at 1:14-20; 3:33-38.) In other words, it is the *lack* of organization on the network that makes search engines like the alleged invention necessary.

143. Because the networks searched by the patent are not organized, the claimed system is unable to extract only potentially relevant search results from that network. As described in Section III.D above, searching the network requires examining a series of interlinked web pages

that may or may not be relevant to the query at hand. This deluge of potentially irrelevant web pages requires that the network scanning system send located informons to the content-based filter structure, as detailed in Col. 25:39-52. No such content-based filter structure is needed in the event of a database look up; since the data is already organized, the system is assured that any retrieved data is potentially relevant.

144. Further, the claims require "scanning a network [] for informons relevant to the query." Dr. Frieder's report never states what the required "informons" are; however, it appears that his infringement contentions equate "informons" to advertisements. (See, e.g., Ex. 5 at 1: "Google AdWords includes a search engine system that searches for information (e.g., advertisements) relevant to a search query.") However, the accused database lookups do not retrieve advertisements. [redacted] Accordingly, Dr. Frieder has not presented a consistent infringement theory whereby the "informons" allegedly located while "scanning a network" are the same "informons" allegedly received from the scanning system and filtered "for relevance to the query."

145. [redacted] They are therefore not "searched for" even in the database. [redacted] By way of analogy, a person driving home from work does not usually search for his house; he already knows where his house is, and thus he drives straight to that location. Whereas a person driving to a house he's

never been to presumably does not know where that house is, and thus would need to search for that house by checking multiple streets and/or addresses. Furthermore, because all the ads are specifically given to Google by advertisers, Google does not need to affirmatively search for them.

146. Dr. Frieder also asserts that "AdWords conducts a crawl of the Internet to collect additional information about the landing pages of advertisements." (Frieder at 27.) As an initial matter, landing pages are not searched or "looked for" on a network—there is a single URL corresponding to a single web page retrieved from a single computer, not a series of pages from multiple computers as required by the claims. And the URL is supplied by the advertiser, so there is no need for AdWords to search or look for it. Moreover, even if the landing page were the "informon" required by claim 10[a] and 25[a], that landing page is not received "by a content-based filter system" as required by claim 10[b] and 25[b], and Dr. Frieder does not assert otherwise. Notably, the Court's Markman Order held that claim 25[b] must occur after claim 25[a] in the '420 Patent,[33] so Dr. Frieder cannot allege that looking for landing page URLs satisfies step [b] as well as step [a]. [redacted] Again, Dr. Frieder has not presenting a consistent infringement theory whereby the "informons" allegedly located while "scanning a network" are the same "informons" allegedly received from the scanning system and filtered "for relevance to the query."[34]

147. Dr. Frieder asserts—without any evidence—that "there is no requirement in the claims that the scan of the network must occur after a query is received." (Frieder at 27.) This is contradicted by the plain language of the claims: "scanning a network to make a demand search

[33] *See* D.I. 171 (Markman Order) at 22.

[34] [redacted] Dr. Frieder does not explain how this human evaluation can be brought within the computerized "search engine system" and "method of operating a search engine system" required by the '420 claims.

for informons relevant to a query from an individual user." (claim 10[a], 25[a].) Plainly, the claimed system cannot "scan a network [] for informons relevant to a query" without knowing what that query is.

148. Dr. Frieder also asserts—again without any supporting analysis—that "[t]here is no functional difference as to whether the system scans a network directly after a search to look for items to consider for relevancy to the query, or scans a network prior to the search to look for items to consider for relevancy to the query." This assertion is without basis. As one of skill in the art would know, there are huge differences in resources, responsiveness, and accuracy between performing an operation *before* runtime (before receiving the query) and *at* runtime (after receiving the query and while the client is waiting for a response). For example, scanning a network before receiving a query necessarily requires more data storage, as the system must store "informons" for all potential queries. Scanning a network after receiving a query does not require much storage, as the system need only store information relating to any active searches. Similarly, scanning a network before receiving a query allows the system to respond to the user much quicker, since the relevant information has already been received from the various computers on the network. Scanning a network after receiving a query results in slower response times, as the system must perform the "scanning" step before moving on to the other steps. For the same reason, scanning a network before receiving a query raises the possibility of returning obsolete information, while scanning a network after receiving a query will return information that is more up-to-date.

149. It is therefore not the case that scanning prior to receiving the search performs substantially the same function in substantially the same way to achieve substantially the same result as scanning after receiving the query. The function is different: the former scans a network for all queries while the latter need only scan for the current query. The way is also