

**TESTIMONY OF BOB DYKES, CEO NEBUAD, INC.  
BEFORE THE SENATE COMMITTEE ON  
COMMERCE, SCIENCE & TRANSPORTATION**

**PRIVACY IMPLICATIONS OF ONLINE ADVERTISING  
July 9, 2008**

Chairman Inouye, Ranking Member Stevens, and Members of the Committee, thank you for inviting me to appear today regarding the privacy implications of online advertising. My name is Bob Dykes, CEO of NebuAd, Inc., a recent entrant into the online advertising industry that partners with Internet Service Providers (ISPs). I have spent considerable time over the past year with federal policymakers at the Federal Trade Commission (FTC), Federal Communications Commission, and in Congress -- as well as with consumer and privacy advocates -- discussing NebuAd's technology, operations, and privacy protections and welcome the opportunity to discuss all of this further with the Committee.

**INTRODUCTION**

Online advertising is a phenomenon of the Internet age. It permits advertisers to provide more relevant messages to consumers and in turn fuels the development of website publishers, both large and small. In fact, advertising is the engine for the free Internet. The FTC has found online advertising benefits consumers by enabling "access to newspapers and information around the world, provided free because it is subsidized by online advertising; tailored ads that facilitate comparison shopping for the specific products that consumers want; and, potentially, a reduction in ads that are irrelevant to consumers' interests and that may therefore be unwelcome."<sup>1</sup>

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<sup>1</sup> It is an axiom that advertising has more value when the advertiser believes the user is more interested in the advertiser's product. Such interest is not obvious when a user visits general-purpose news and information sites, which are some of the very ones noted by the FTC Staff as standing to benefit from online advertising. Accordingly, the online

Within this world of online advertising, NebuAd is a newcomer, just entering among industry giants like Google, Yahoo!, Microsoft, Amazon, and countless website publishers. That means we have a steep hill to climb, but it also means we have great opportunities. We are able to learn the lessons of the industry and construct state-of-the-art technology that delivers ads that are more relevant to users while providing them with robust and industry-leading privacy protections. Indeed, as I will discuss, these privacy protections are built into our technology and designed into our policies from the ground up.

Let me explain our privacy motivation more fully. I come from a security background, serving for many years as Executive Vice President of Symantec Corporation, a global leader in providing security solutions for computers and computer networks. When we launched NebuAd several years ago, it was at a time when many people had particularly heightened concerns about data security. Hackers were piercing firewalls, seeking to capture seemingly random strands of data to find the identity of users. The government was ordering ISPs and other network providers to turn over data on their users. As part of its mission, NebuAd sought to address these privacy and security concerns.

The NebuAd service is architected and its operations are based on principles essential to strong privacy protection:

- Provide users with prior, robust notice and the opportunity to express informed choice about whether to participate, both before the service takes effect and persistently thereafter;
- Do not collect or use personally-identifiable information (“PII”);

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advertising industry is constantly seeking other ways to infer user interest and then bring that knowledge to bear on the placement of ads on these sites. That is, behavioral advertising drives value and supports those sites on the Internet that provide society with great value.

- Do not store raw data linked to identifiable individuals; and
- Provide state-of-the art security for any information stored.

As a result, NebuAd's service is designed so that no one – not even the government – can determine the identity of our users. That means our service for ISP users, including the ad optimization and serving system, does not collect or use any PII. In addition, NebuAd requires its Internet service provider (“ISP”) partners to provide robust, advance notice about our operations and our privacy protections to their subscribers, who at any time can exercise their choice not to participate. And, finally, we have located our servers in highly secure data centers.

### **THE NEBUAD TECHNOLOGY AND ITS ADVERTISING OPERATIONS**

Currently, online advertising solutions operate in many locations throughout the Internet ecosystem – from users' computers to individual web-sites to networks of web-sites. When an Internet user visits the sites of web publishers, like Yahoo! or Amazon, these sites typically collect information about the user's activities to target ads based on that information. When an Internet user conducts a search, the search company may collect information from the user's activity, which in turn may be used to improve the relevance of the ads shown. And when a user visits a web-site within an online advertising network, some of which include thousands of sites, the visits help the network advertising company categorize a user for targeted advertising. All of these activities are well-entrenched in the Internet and, given the enormous and growing use of the Internet, have proven to have mutual benefits for users, publishers -- large and small -- advertisers, and ad-networks.

NebuAd provides online advertising in partnership with ISPs. The NebuAd advertising service has been architected to use only a select set of a user's Internet activities (only a subset of HTTP traffic) to construct anonymous inferences about the user's level of qualification for a

predefined set of market segment categories (“anonymous user profiles”), which are then used to select and serve the most relevant advertisements to that user. The NebuAd advertising service does not collect or use any information from password-protected sites (e.g., HTTPS traffic), web mail, email, instant messages, or VOIP traffic. Using only non-PII, NebuAd constructs and continuously updates these unique and anonymous user profiles.<sup>2</sup>

In the course of these business operations, NebuAd’s ad optimization and serving system does not collect PII or use information deemed to be sensitive (e.g., information involving a user’s financial, sensitive health, or medical matters).<sup>3</sup> In addition, NebuAd requires its ISP partners to provide robust disclosure notices to users prior to initiating any service and permits them to opt-out of having their data collected and receiving targeted ads. Once a user opts-out, NebuAd deletes that user’s anonymous user profile and will ignore the user’s subsequent web navigation activity.<sup>4</sup>

Finally, NebuAd’s ad optimization and serving system operates similar to traditional ad networks. It makes standard use of cookies for accepted ad serving purposes. It makes standard use of pixel tags that operate only within the security framework of the browser to invoke the placement of ad network cookies and that contain no uniquely identifying number, subscriber

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<sup>2</sup> The anonymous user profiles do not contain any original raw data, such as URLs navigated, but only consist of a set of numbers that represent the anonymous inferences about the user’s level of qualification for a predefined set of market segment categories.

<sup>3</sup> NebuAd understands that the definition of “sensitive” information will evolve. We stated in our comments to the FTC on the “Staff’s Proposed Principles for the Self-Regulation of Behavioral Advertising” that we would adopt the Staff’s definition of “sensitive” information, assuming it is not limitless. We also would consider additional reasonable limitations proposed by other stakeholders.

<sup>4</sup> NebuAd has enhanced the industry-standard opt-out “cookie” based system with the use of proprietary techniques. This enables the opt-out to be more persistent. NebuAd’s entire enhanced opt-out system is linked to individual computers and browsers, and it informs users of this fact in assisting them in understanding the nature of their opt-out choice.

identifier, or any other subscriber information. In sum, NebuAd's code used for standard ad serving purposes is both clean in its purpose and function.

### **THE PRIVACY PARADIGM IN THE UNITED STATES AND NEBUAD'S PRIVACY PROTECTIONS**

In contrast to the European Community, where omnibus privacy law covers all industries, in the United States, privacy statutes have been developed in a largely sector-specific fashion. This Committee has long been part of that trend, having overseen the creation of privacy statutes generally covering the cable and telecommunications industries, as well as specific statutes addressing online privacy for children, telemarketing, and spam. Yet, even though these and other privacy statutes have been developed one at a time, there are common threads running through them:

- When more sensitive data is collected, and when the collection and disclosure of the data could harm or embarrass a consumer, more rigorous disclosure and consent requirements tend to be imposed.
- When raw data linked to an identifiable individual is stored for longer periods, there is an emerging trend that more rigorous disclosure, consent, and security requirements should be imposed.

NebuAd supports this privacy paradigm, which provides users with consistent expectations and substantial protections. This paradigm also is technology and business-neutral, and it is the basis upon which NebuAd built its technology and operations. NebuAd urges the Committee to maintain both the paradigm and the principle of technology and business-neutrality.

In implementing this privacy paradigm, NebuAd not only relied on the expertise of its own personnel, it turned to leading privacy experts, including Fran Maier, Executive Director and President of TRUSTe, the consumer privacy organization, Dr. Larry Ponemon of the

Ponemon Institute, and Alan Chapell of Chapell & Associates. These experts provided important input into NebuAd's initial privacy program. They were particularly stringent in recommending that NebuAd should not collect PII or sensitive information and that it provide consumers with robust notice and choice. NebuAd followed that guidance in developing our privacy program.<sup>5</sup>

The following are the key privacy protections upon which NebuAd has architected into its technology and based its operations:

**1. NebuAd's service does not collect or use PII from ISP subscribers.** The entire ad optimization and serving system does not collect or use any PII, nor does it collect any information from password-protected sites, web mail, e-mail, instant messages, or VOIP traffic.

**2. NebuAd stores only a set of numbers that represent the user's level of qualification for a predefined set of market segment categories ("anonymous user profiles").** NebuAd does not store raw data such as URLs navigated or IP addresses associated with an identifiable individual. Rather, the NebuAd service constructs anonymous inferences about the user's level of qualification for a predefined set of market segment categories, and then discards the raw data that was used to create or update a user's anonymous profile. This mechanism of constructing anonymous inferences about the user's level of qualification and not storing raw data provides a strong additional layer of privacy protection that goes beyond the standards used by many Internet companies today.

**3. NebuAd's ISP Partners are required to provide robust, direct notice in advance of launch of the service.** The notice discloses to the user that the ISP is working to ensure that advertisements shown will be more relevant advertisements, that to deliver these ads its partner creates anonymous profiles based on part of the user's web-surfing behavior, which does not include the collection of PII, and that the user may opt-out of the service. For existing subscribers, the notice is required to be delivered 30-days prior to the launch of the service by postal mail, e-mail, or both.<sup>6</sup> For new subscribers, the

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<sup>5</sup> A just released survey of U.S. Internet users by TRUSTe showed that 71% of online consumers are aware their web-surfing information may be collected for the purpose of advertising and 91% wanted to have the tools to assure they could protect their privacy. NebuAd has strived to provide users with this transparency by educating users about its activities and their choices regarding whether to participate in NebuAd's services.

<sup>6</sup> NebuAd seeks to ensure that users are fully informed of its activities and are given full opportunity to choose whether to participate. To that end, we are developing enhanced notification mechanisms.

notice is required to be placed clearly and conspicuously in the new subscriber sign-up flow and outside the privacy policy. All subscribers can opt-out at any time, and on-going disclosure and opportunity to opt-out is required to be provided within the ISP's privacy policy.

**4. NebuAd and its ISP partners offer users advance and on-going choice of opting-out of the service.** Users are provided with a clear statement of what opt-out means and the way it operates. Once the opt-out option is chosen, NebuAd honors that choice and ignores the user's subsequent web surfing activity and thus does not serve the user with behaviorally targeted ads.<sup>7</sup>

**5. NebuAd's service only creates anonymous user profiles, which contain no PII and no raw data, and its placement of ads is completely anonymous.** NebuAd uses proprietary algorithms and techniques, including one-way encryption of data, so that no one – not even NebuAd's engineers who designed the system – can reverse-engineer an anonymous identifier, or the anonymous user profile associated with it, to an identifiable individual.

**6. NebuAd avoids any sensitive websites or product categories.** NebuAd does not track or serve ads based on visits related to adult content, sensitive medical information, racial or ethnic origins, religious beliefs or content of a sexual nature, and does not have market segment categories for illegal products.

**7. NebuAd does not permit either complexity of data or narrowness of data to be reverse-engineered into PII.** This protection is accomplished because anonymous user profiles are constructed by anonymous inferences about the consumer's level of qualification for a predefined set of market segment categories. Raw data is simply not stored as part of the anonymous user profile. In addition, the NebuAd service does not have narrowly-defined segments. Finally, the anonymous profile identifier is the result of multiple encryptions, and based on multiple data elements including the hashed IP address.

**8. There is no connection or link between the ISP's registration data systems and NebuAd.** That means that no user-specific data is exchanged between NebuAd and ISP data systems. This boundary is preserved further and inadvertent disclosure is prevented because NebuAd immediately performs a one-way encryption of the IP address and other anonymous user identifiers used within the NebuAd system.

**9. NebuAd installs no applications on users' computers, has no access to users' hard drives, and has no access to secure transactions.** As such, NebuAd does not control a user's computer or web-surfing activity in any way (*e.g.*, by changing computer settings or observing private or sensitive information).

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<sup>7</sup> The user, of course, will continue to receive ads.

**10. NebuAd's Data Centers are professionally operated and secured.** NebuAd's servers are located at secure sites with state-of-the-art protections against any intrusion, electronic or physical.

NebuAd is proud of these protections – all of which were adopted to comply with both the spirit and letter of the government's privacy paradigm – and, it continuously seeks to enhance them.

## **CONCLUSION**

As I stated at the outset, I have spent years seeking to ensure that users have robust and transparent privacy protections. In a very real sense, NebuAd is the product of that work. It has adopted and implemented state-of-the-art privacy protections, and, equally as important, it has established a process to continuously improve on them. The Internet is a highly dynamic environment, where new technologies are constantly developed to address new challenges, and we both want and need to take advantage of them. NebuAd takes its responsibilities to its users very seriously. It looks forward to continuing to work with government policymakers as they examine online advertising and privacy issues.