

Demand-side platforms: How publishers can profit

An OpenX whitepaper

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Demand-side platforms (DSPs) have attracted a lot of attention recently, especially following Google's acquisition of Invite Media in June 2010.

This white paper explores what DSPs are and how they work with online ad exchanges like OpenX Market. It reviews what opportunities they create for both advertisers and publishers and what publishers in particular can do to profit from them.

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1 Introduction

Real-time bidding, ad exchanges and demand-side platforms (DSPs) have attracted a lot of media coverage over the last few months: in fact, Forrester forecasts that by the end of the year 30% of ad spend will be channelled through DSPs.¹ However much of the coverage is confusing, with commentators failing to define and distinguish the roles of ad exchanges and DSPs, and not explaining how each helps advertisers to spend their ad budgets more effectively and publishers to increase their ad revenues.

This white paper builds on the last OpenX white paper, [Ad exchanges vs ad networks: how they stack up](#), in which we explained what ad exchanges are, how they differ from ad networks, and what the pros and cons are for publishers and advertisers. In this white paper, we take a similar look at DSPs. We explain what a DSP is, how DSPs work with exchanges, and how they help advertisers by:

1. Enabling them to buy across multiple exchanges through a single user-interface
2. Providing a holistic view of spend and performance across exchanges
3. Providing analytic tools to drive more effective real-time bid pricing

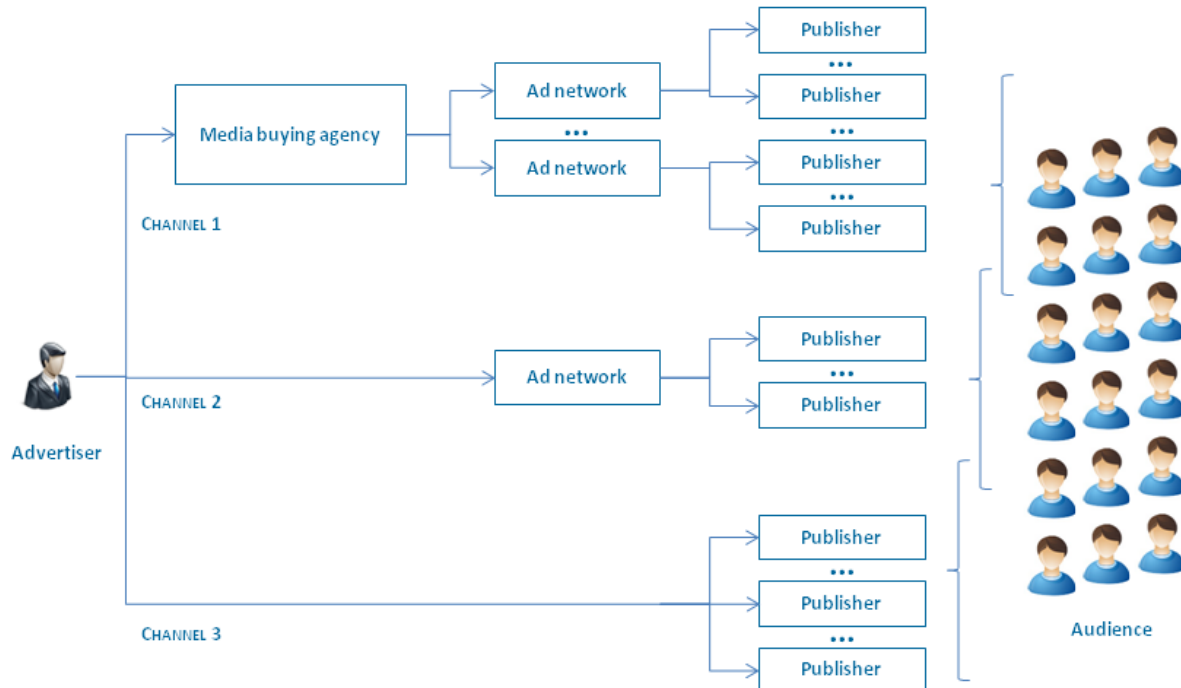
We explore how DSPs provide opportunities for publishers and advertisers, by attracting bigger ad budgets and enabling more of those dollars to filter through to publishers rather than be taken by intermediaries. Finally we outline how publishers can realize this opportunity, by making their inventory available to an ad exchange like OpenX Market.

¹ Forrester *Media Buying Goes Real-time* February 2010

2 Demand-side platforms

2.1 How advertisers spend online ad budgets today

Today, advertisers split their media budgets between media buying agencies, ad networks and publishers. This is necessary because advertisers want to reach a wide audience and internet audiences are fragmented across a large number of publisher sites:



2.2 The challenge

The current model results in a number of difficulties for advertisers:

Inefficient buying process

Because advertisers buy across multiple channels², time and effort has to be spent managing multiple relationships, setting up campaigns and monitoring results with different partners.

No “holistic view” across online channels

Advertisers lack a “holistic view” of what they have spent across different channels, what they bought and what the results of those buys are. While it is possible to combine data from different sources to create a holistic view, the time and effort required means most only do it infrequently, if at all.

² We use the term “channel” to refer to any source of inventory where advertisers make media buys

Difficult to manage reach and global frequency

While advertisers know what reach each channel provides, they can only guess at their total reach, because it is hard to calculate the overlap between different buying channels.

Further, it is hard for advertisers to implement global frequency caps; a large number of impressions bought across different channels could be shown to the same group of visitors.

Difficult to understand the return on ad spend

To understand what drives the return on ad spend, advertisers need to accurately assess the impact of each advertising dollar spent by channel, website, creative and audience segment.

Without a “holistic view”, identifying and isolating the target segments to run statistical tests is time consuming. More effort has to be spent collecting relevant data than analysing it, making it hard for advertisers to really understand what drives campaign success and use that knowledge to optimize spend.

Difficult to optimize spend across channels

Because advertisers cannot measure return on spend per channel, they cannot optimize spend across channels.

These difficulties have contributed to lower than expected growth in the display advertising market: while internet usage represents approximately 25-30% of consumer media time³, estimates of the fraction of brand advertising spent online range from only 3-4%⁴ to 10-15%⁵ depending on definitions used.

2.3 The DSP solution

Demand-side platforms (DSPs) have emerged to meet the challenges faced by advertisers. DSPs provide advertisers with a new way to buy online ad space, offering three key benefits:

1. **A single buying point** to allocate budget across online channels
2. **A real-time, holistic view** of reach, frequency, performance and return on advertising spend across channels

³ ThinkEquity *The Opportunity in Non-Premium Display Advertising* May 2009

⁴ ThinkEquity *The Opportunity in Non-Premium Display Advertising* May 2009

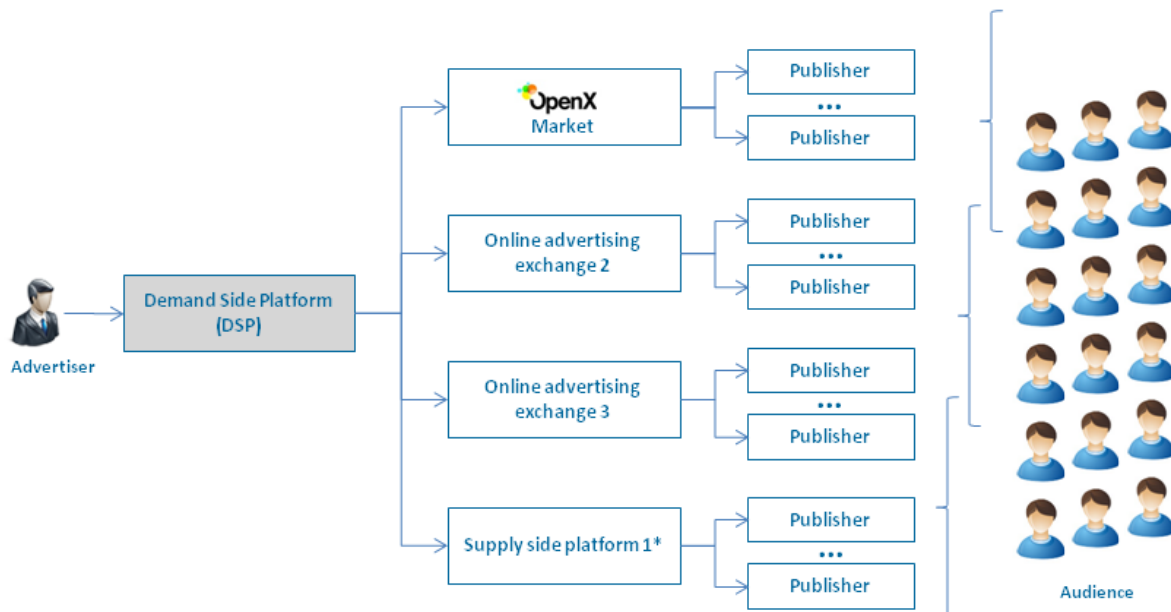
⁵ Bain and IAB *Building Brands Online* Nov 2009 Marketer survey. Bain forecasts brand spend online will rise to 15-20% by 2011

3. **An advanced toolset** to use that data to drive more intelligent ad buying on a per impression basis

2.4 DSP mechanics

2.4.1 A SINGLE BUYING POINT

DSPs take advantage of a parallel development in online advertising: the emergence of real-time ad exchanges (described in a previous OpenX [white paper](#)). Ad exchanges like OpenX Market provide a single point for advertisers to buy inventory across hundreds of thousands of sites and hundreds of millions of unique visitors globally, one impression at a time, in real-time. DSPs go one step further: they provide a single interface for advertisers to buy across multiple real-time ad exchanges, giving advertisers access to billions of unique users on millions of websites through a single buying point:



* As well as enabling advertisers to buy across real-time ad exchanges, DSPs also let advertisers buy across other real-time sources of inventory called sell-side platforms e.g. *Pubmatic*, *Rubicon Project*.

2.4.2 A HOLISTIC VIEW

Ad exchanges like OpenX Market provide advertisers with unprecedented visibility into the audience they have targeted, the websites they have bought on and the impact of those buys. DSPs can then consolidate this information across the different exchanges, providing their advertisers with a single, holistic view of all the advertising they have bought across all audience segments and websites, what they paid for it and the impact it has had.

2.4.3 GREATER CONTROL OF AD BUYING ACROSS MULTIPLE EXCHANGES

By centralizing buying at a single point, DSPs enable advertisers to exert greater control over the way they buy ads, for example, enabling them to frequency-cap across multiple ad exchanges – ensuring

that individual users are not over-exposed to ad messages which are delivered across multiple ad exchanges.

2.4.4 INTELLIGENCE TO SET BID PRICES IN REAL-TIME

Where DSPs add most value is in helping advertisers to bid more intelligently for impressions in real-time. Ad exchanges like OpenX Market let advertisers dynamically set bid prices in real-time, offering them the opportunity to optimize their return on ad spend based on actual campaign performance and the value of each impression. This is a huge opportunity for advertisers.

Knowing how to leverage this functionality effectively, however, is difficult: different metrics are appropriate for evaluating the impact of different campaigns, and untangling the data to determine whether a particular creative is more impactful for a particular audience segment, or on a particular website, or some combination of the two, is complex. To assist with this, many DSPs provide advertisers with analytic toolkits so they can take their financial and ad serving data and use it to drive more intelligent real-time bidding. Some DSPs also offer automated optimization algorithms, allowing the DSP to determine the optimal bid price on behalf of the advertiser.

2.5 The major DSPs

There are a large number of different DSPs. Some examples include:

DSP	Notes ⁶
AppNexus	<ul style="list-style-type: none"> Claims they launched “the internet’s very first server-side, real-time ad transactions”
DataXu	<ul style="list-style-type: none"> Proprietary technology “learns” the optimal bid for different audience and websites based on previous campaign data, and sets bids accordingly on behalf of advertisers
Invite Media	<ul style="list-style-type: none"> Includes an optimization platform to determine bid prices on behalf of advertisers. Acquired by Google.
MediaMath	<ul style="list-style-type: none"> Work solely for agencies (not for advertisers directly)
Turn	<ul style="list-style-type: none"> Machine-learning algorithm determines bid prices on behalf of advertisers based on past performance Advertisers get access to tools to evaluate impact of shifting ad budgets and targeting criteria
x+1	<ul style="list-style-type: none"> Products to dynamically assemble landing pages and websites to maximize post-click conversion
xa.net	<ul style="list-style-type: none"> Buy across non-real time as well as real-time platforms

⁶ Source: company websites

3 Implications

3.1 For advertisers

Advertisers will shift a growing proportion of their budgets from media agencies and ad networks to DSPs and other real-time channels like ad exchanges to take advantage of the transparency and control over ad buying. Forrester estimates that the benefits of DSPs are so compelling that by the end of 2010, 30% of online ad spend will be channelled through them.⁷ That is in spite of two constraints on DSP growth:

1. **Inventory availability.** Although a lot of inventory is available via DSPs and ad exchanges, there are still large pools of valuable inventory that advertisers cannot access in real-time. However, this is likely to change over time, as more publishers sell their inventory on ad exchanges
2. **A knowledge / expertise gap.** To realize the benefits of buying inventory in real-time, advertisers need to learn how to dynamically set the right bid prices

In addition, it is likely that DSPs will open up the display ad market to a range of smaller advertisers, who previously did not have the budgets to buy effectively through traditional channels (e.g. ad networks), but can do so through automated platforms like DSPs.

3.2 For publishers

For publishers, DSPs present an opportunity because:

1. They encourage advertisers to spend **more ad revenue online**
2. Publishers are left with a **higher proportion of total ad spend** because there are fewer intermediaries between advertisers and publishers taking a cut
3. Smaller publishers can compete with larger publishers for ad spend on a **more level playing field**, because DSPs make it just as easy for advertisers to buy their audience across multiple niche sites as a handful of large sites

To capitalize on these opportunities, publishers should make all of their non-guaranteed inventory available on an ad exchange. By exposing their inventory to an ad exchange, publishers enable advertisers (who work with DSPs) to buy their inventory.

Because DSPs provide advertisers with access to a wide range of ad exchanges, publishers need only work with one ad exchange. Publishers can choose which exchange to use based on their own preferences. They may choose to work with an ad exchange like OpenX Market which:

- Gives them **control** over what advertisers and ad creatives run
- Protects their CPMs by letting them **set minimum prices** for inventory

⁷ Forrester *Media Buying Goes Real-time* February 2010

To streamline the entire ad serving and revenue optimization process, many publishers also use the OpenX Enterprise ad server. Since OpenX Enterprise integrates directly with OpenX Market, with one click they make their unsold inventory available to the Market and DSPs.

More information on ad exchanges can be found in the [previous white paper](#).

4 Conclusion

Together, real-time ad exchanges and DSPs offer advertisers a more efficient and more transparent way to buy online ad space that enables advertisers to improve their return on ad spend. DSPs offer advertisers a powerful toolkit to take advantages of the real-time bidding opportunities made possible by ad exchanges, making it easier for advertisers to buy across multiple exchanges and optimize their spend between exchanges and on each exchange.

By encouraging advertisers to spend more online, and making it easier for smaller publishers to compete with larger publishers for a share of ad spend, DSPs also present publishers with opportunities to grow ad revenue. To take advantage of these opportunities, publishers need to expose their inventory to an ad exchange. Since DSPs make inventory across all real-time ad exchanges available to advertisers, publishers have the freedom to choose which ad exchange to work with, and may select one like OpenX Market that gives them control of their data, protects their CPMs and allows for easy integration with their ad server.