



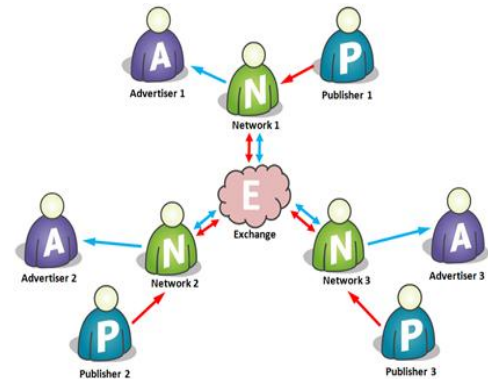
Adx Connect

Ad Exchange for Display Advertising

1. Introduction

Ad Exchanges are real time technology platforms that facilitate the buy and selling of online media advertising inventory from multiple ad networks.

Building upon the popular Ad Network technology from Ad Server Solutions, Adx Connect brings to you a powerful exchange platform that facilitates aggregation of traffic from direct publishers, ad networks and RTB providers and then selling to advertisers, agencies, media buyers, ad networks and demand side platforms.



You should consider Adx Connect exchange platform if

- You are an ad network with focus on traffic side (SSP) and want to supplement and qualify traffic from other providers.
- You are an ad network with focus on demand side (DSP) and want to access multiple sources of qualified inventory through optimized buying.
- You are an ad network with focus on both SSP and DSP sides of the ecosystem.
- You want to operate a SAAS based exchange platform and you want other exchanges to use your platform on a subscription/transactional basis.

Our Adx Connect platform is an enterprise grade solution that can help you go to market quickly and cost effectively. Our platform will cut down long development cycles and faster implementation will enable you to focus on the business.

Adx Connect technology is available as licensed, license with source and in SAAS model. Our customers worldwide have benefitted tremendously from our sales model, primarily due to the fact that they do not reinvent the wheel by building commoditized ad network technology and they also have access to source code for RTB bidders and auctioning technology.

This product description document outlines various product features and architectural details of Adx Connect platform.

2. Supply Side

Adx Connect platform's supply side automation extends the traditional publisher and ad network registration ability by including RTB bidder components. RTB bidders process, qualify and then bid on inbound traffic.

Bids won then can be monetized through multiple buying channels like direct advertisers (non-guaranteed ad sale), ad networks and DSP auctions. Demand side section provides details on buying channels.

Detailed Feature List

- ❖ Direct publishers
 - ❖ Enrolling websites
 - ❖ Enrolling ad spaces
 - ❖ Floor price
 - ❖ Category definitions
 - ❖ Pass back tags for unsold inventory with macro support
 - ❖ Reports
 - ❖ Statements
 - ❖ Payments
- ❖ Media Partners
 - Entities that offer traffic as premium or remnant inventory
 - May be ad networks, CMS providers or other type of inventory aggregators
 - Ability to offer dynamic ad tags to media partners with large number of websites and ad spaces.
 - Floor price
 - Media partner reporting
 - Statements
 - Payments
- ❖ RTB Providers
 - Ability to process traffic from multiple RTB providers. Currently supporting Ad Brite, Ad Meld, AppNexus, Criteo, Google Adx, OpenX, RMX, Rubicon and Pubmatic.
 - Ability to process domains and pages and create category buckets.
 - Ability to scan and analyze traffic. Analyzed traffic is then applied to the ad network for serving ads.
 - Ability to create and manage campaigns and modify bid amounts.
 - RTB providers do not have any self-care features or reports available.

3. Demand Side

Adx Connect platform's demand side extends the traditional self-care campaign creation process for advertisers, agencies and media buyers by incorporating automated optimized buying from ad networks and demand side platforms.

Detailed Feature List

- ❖ Direct Advertisers, Agencies and Media Buyers
 - ❖ Ability to create run-of-network or site-specific campaigns
 - ❖ Ability to buy media based on budget and/or units.
 - ❖ CPM, CPC and CPA pricing models
 - ❖ Inventory look up (Show Avails)
 - ❖ Campaign controls include
 - ❖ Flight dates
 - ❖ Total budget
 - ❖ Daily Budget
 - ❖ Frequency capping
 - ❖ Day parts
 - ❖ Targeting includes
 - ❖ Content categories
 - ❖ Keywords
 - ❖ User categories
 - ❖ Geo (IP based targeting)
 - ❖ Creative
 - ❖ Manage ads
 - ❖ Image, Text, Flash, Video, Audio, Third party, advanced html ads. For video and audio, only basic display advertising reporting available.
 - ❖ Macro support for click tracking
 - ❖ Weighting
 - ❖ Creative assignment to specific publishers in media plan
 - ❖ Controls of activate or deactivate ads from a campaign
 - ❖ Optimization
 - ❖ Optimize by spend/impressions, content categories and day part.
 - ❖ Learning budget
 - ❖ Reports
- ❖ Ad Networks
 - ❖ Tag based CPM relationship
 - ❖ Tags loaded into the platform as third party ads
 - ❖ Executed as run-of-network tags
 - ❖ Takes lower precedence compared to direct and run-of-network buys
 - ❖ Automated reporting reconciliation

- ❖ No reporting interface available for ad networks
- ❖ Demand Side Platforms (DSP)
 - ❖ Ability to create campaigns like direct advertisers
 - ❖ System directs all matching traffic to DSP for auctioning.
 - ❖ Reports available where DSP can look at price points at which their bids were won.

4. Administrator View

Adx Connect platform is driven by role based platform administrators that have a full view of transactions taking place inside the exchange. The administrator interface has numerous controls and reports available to operate the platform.

Detailed Feature List

- ❖ Roles
 - ❖ Super administrator has ability to create following roles that have access to specific parts of the administrator interface:
 - ❖ Super Admin
 - ❖ Account Manager
 - ❖ Ad Sales
 - ❖ Ad Ops
 - ❖ Application Support
- ❖ Account Management
 - ❖ Ability to manage SSP accounts (direct publishers, media partners and RTB sources)
 - ❖ Ability to manage DSP accounts (Direct advertisers, agencies, media buyers, ad networks, DSP) accounts.
 - ❖ For SSP accounts
 - ❖ Set payouts
 - ❖ Enroll websites
 - ❖ Enroll ad spaces
 - ❖ Reports
 - ❖ View Statements
 - ❖ For DSP accounts
 - ❖ Create campaigns
 - ❖ View statistics
 - ❖ Record payments
- ❖ Ad Sales
 - ❖ Show Avails (analyze inventory)
 - ❖ Create Campaigns
 - ❖ View Reports
- ❖ Ad Ops
 - ❖ Direct advertiser campaigns management.
 - ❖ Campaign management for RTB sources.
 - ❖ Campaign management for Ad networks and DSPs.
 - ❖ Workflow based campaign status (approve, decline etc).
 - ❖ Controls for daisy chain set up and priority based on network payout.
 - ❖ Weighting of publisher ad spaces for direct versus remnant flow to prevent accelerated campaign burnout.

- ❖ Publisher payouts for ad network relationships.
- ❖ Optimization rules.
- ❖ Lead Management
 - ❖ View lead submissions from CPA campaigns.
- ❖ Platform Statistics
 - ❖ Graphical trending reports for entire network impressions, earnings, publisher payouts etc.
 - ❖ Summary statistics
 - ❖ Recent publisher list
 - ❖ Recently unplugged ad spaces
 - ❖ Receivables report
 - ❖ Receivables from direct campaigns
 - ❖ Receivables from ad networks
 - ❖ Receivables from DSPs
 - ❖ Payables report
 - ❖ Payouts to direct publishers
 - ❖ Payouts to media partners
 - ❖ Payouts to RTB traffic providers
 - ❖ Direct campaign reports
 - ❖ For analysis
 - ❖ Print friendly
 - ❖ Publisher trending reports
- ❖ Accounting
 - ❖ Publisher payable report
 - ❖ Record publisher payment
 - ❖ Advertiser receivable report
- ❖ Application Support
 - ❖ Reference data management like zones
 - ❖ User management
 - ❖ Global publisher payouts
 - ❖ Auction timeout report

5. Adx Connect Engine

While all previous sections of this document address the user interface part of the Adx Connect platform, this section provides details of the core engine that drives the exchange and executes transactions.

The Adx Connect engine has following components:

- ❖ Ad Serving component
- ❖ Bidders component
- ❖ Auctioning component
- ❖ Caching component
- ❖ Campaign monitoring component
- ❖ Reporting component
- ❖ Optimizers

Ad Serving Component

The ad serving component is the heart of the system that drives all transactions. Inbound requests from direct publishers and RTB traffic (bids won) all hit this horizontally scalable component that finds best ads to for an impression.

Ad serving component first looks for any direct campaigns to serve. If none, then it falls back to remnant partners that may be tag-based ad networks or DSP partners who bid on the impression.

To accept bids from DSP partners, the ad serving component hands off the request in real time to Auction component.

All transactions happen in milliseconds; hence the Adx Connect platform has ability to serve hundreds of requests per second.

Bidders Component

All RTB sources land traffic on the Adx Connect platform based on preset criteria. The platform then takes bid amount from predefined campaigns and bids on the impression along with ad tags that point to the ad serving component.

Targeting criteria received in the impression request is overridden by criteria set in RTB campaign.

Auctioning Component

Auctioning component takes requests from ad serving component and broadcasts (RTB 2.0 standard) them to DSP partners. DSP partners then bid on traffic and highest bidder wins the impression on a second-price auctioning model. Ad tags coming in from the DSP partner that won the impression is then routed over to the ad serving component.

Ad serving component then serves this DSP ad tag along with impression beacon to serve the ad and complete the transaction.

Caching Component

This component loads and unloads various data points required for transactions from an in-memory system called Memcached. Using Memcached is essential for an enterprise grade solution. When data points in the system change, there is usually a warm up period before which changes take effect.

Campaign Monitoring Component

This component continuously watches all campaigns running in the system and updates them depending on its state at any given point in time. This also includes all media buys connected to the campaign.

For CPM campaigns, a process for hourly CPM recalibration ensures that campaigns do not under-deliver.

Reporting Component

Reporting component of the platform takes all raw impression logs and generates rolled up reports for consumption by various entities.

For processing impressions sent to ad networks, reconciliation is often an issue. While IAB compliance takes care of a number of reconciliation issues, each ad network develops proprietary algorithms to scrub data. Adx Connect platform consists of numerous scrubbing processes that ensure that receivable numbers align with ad networks.

Optimizers Component

The Adx platform comes with a number of pre-defined optimization rules. These optimization rules ensure that campaigns generate high yield and performance from campaigns.

Optimizers have ability to learn and then start/stop campaigns or exclude certain publishers from the media plan.

Optimization rules are categorized into:

- ❖ Spend/Impressions
- ❖ Category
- ❖ Day part

6. Adx Monitoring & Maintenance

To operate the entire Adx Platform infrastructure, a number of tools have been put together to ensure uptime.

External Monitoring

Products like ApplicationsManager can be used to monitor the application from application to network level. This product polls the various components of the application. Negative responses generate emails to production support team.

Application Monitoring

Adx Platform generates a number of application alerts that are targeted towards various personnel. This includes production support, application support and ad ops.

The platform also consists of a live traffic monitoring graph to look for spikes in the platform.

Archiving

Adx platform provides scripts to back up and archive database.

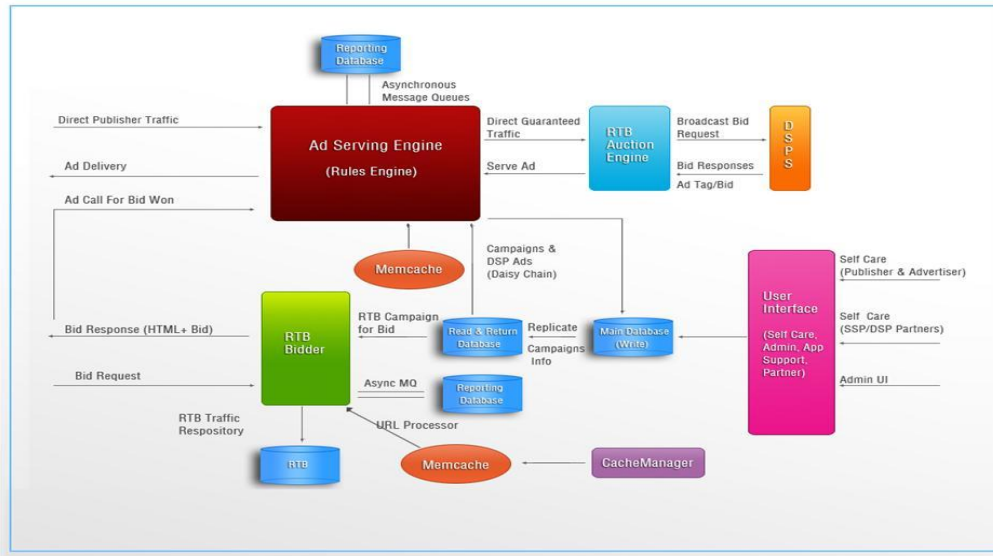
7. Platform Architecture

Adx platform is a highly scalable system that can be deployed on dedicated load balanced servers and on auto-scaling cloud infrastructure.

This document focuses on feature description of the Adx product, hence a visual representation of system flow and deployment architecture has been provided.

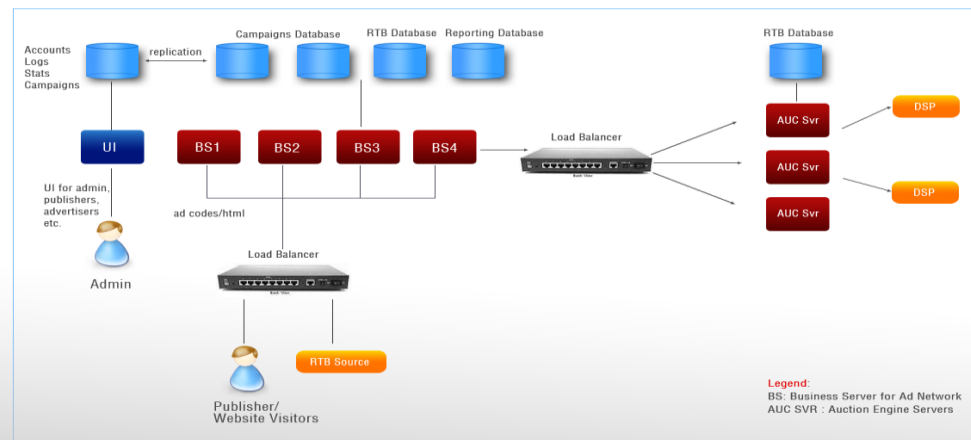
System Flow

Ad Exchange Architecture / Flow



Deployment Architecture

AdExchange Deployment Diagram



Thank You