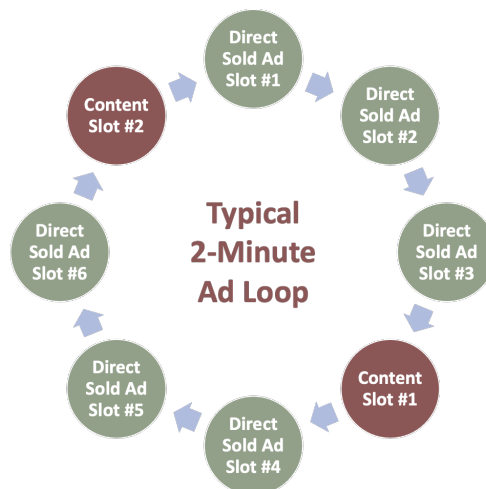


## Guide to Ad Serving in Programmatic DOOH

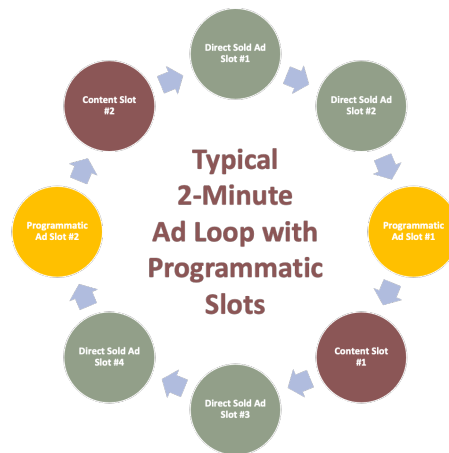
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Ad Serving is beginning to revolutionize the digital out of home programmatic workflow and brings us another step closer to transacting as smoothly as other digital media. It is important publishers, digital planners and media buyers understand how ad serving works in the DOOH world. It is one tool publishers can use to maximize their programmatic revenue opportunity. To understand it fully we need to first look at how digital out of home functioned prior to ad serving and even prior to programmatic.

Before programmatic, digital out of home screens were scheduled by the publisher using an in-house scheduler connected to a CMS or Media Player which was connected to each screen. These early CMS's or Media Players were not very intelligent and simply ran a series of ads and/or content in a loop. A typical loop might include 8 15-second spots with 6 dedicated to ads and 2 to content that simply played through 2-minutes then repeated.



As programmatic has come about in the digital out of home world, we have seen DOOH publishers connect their inventory to the programmatic ecosystem. In the early days, the technology had not evolved to enable more dynamic ad serving so publishers connected one or more spots in their ad loop to programmatic. The issue is to do this, most publishers had to dedicate an ad spot to a single SSP and hope there was demand for the spot. More sophisticated CMS's could fill unused space with filler, content or direct sold ads, but others just skipped the spot.

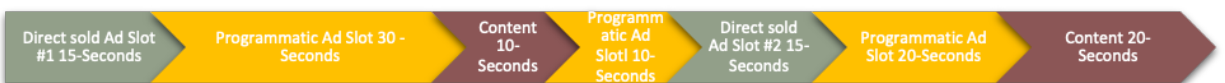


Adding programmatic to a typical fixed ad loop has limitations in that the ad duration still needs to match the ad loop spot length. In this example the programmatic ads have to be 15-seconds in length. This is a limiting factor that could influence the availability of ads for those spots.

In a programmatic world, digital out of home networks need more flexibility to function like other digital media channels including CTV, online, social and mobile media. These platforms can take programmatic ads of varying lengths from multiple sources. For DOOH networks to fit into this model, a few things have to happen, the networks need to be flexible enough to handle ads from multiple demand side platforms and they must be able to handle different length ads in both static and video format. The solution for this is connecting inventory through an API or embracing a publisher side Ad Server.

For larger companies with technology departments and for newer DOOH networks who are digital (and programmatic) first, this connection is often through an API (Application Programming Interface) connection. Many of their networks run more dynamic ad schedules.

**Examples of dynamic ad schedules where direct ads, programmatic ads and content of varying lengths can dynamically drop into the ad schedule at any time.**

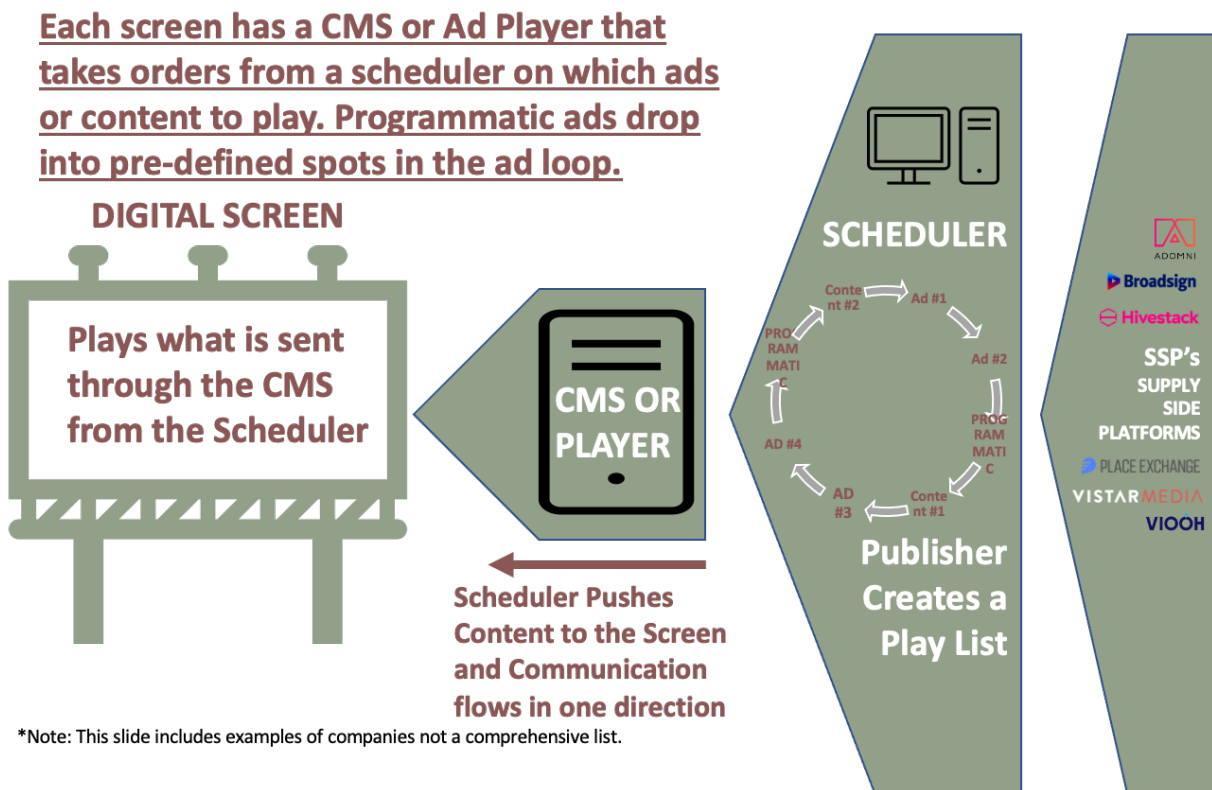


An API is simply a software interface that lets two applications speak to each other. In this case it is between the Publishers CMS (Content Management System) and the SSP (Sell Side

Platform). This API can be programmed to speak to multiple SSP's and essentially connect a single ad spot to multiple supply sources giving the spot a higher likelihood of being filled and if more than one ad is asking for the spot, the API can traffic the one that is most valuable to the publisher, typically the highest revenue opportunity.

Digital second and smaller publishers without the expertise to create and manage API connections, often connect through something called a container. A container is a software package that similar to an API, lets the CMS speak to the SSP, but in the case of a container, the connection is dedicated to a single SSP, so the ad spot managed with a container connection could not then be used for demand coming from other SSP's. This has two disadvantages, first if an ad is not available the spot goes unsold, and second, if an ad is available there is no opportunity for other SSP's to compete for the ad slot and increase the revenue opportunity.

**Traditional Ad Scheduling through a Scheduler and CMS often using an ad loop.**  
**Communication goes one way with the scheduler telling the CMS or Player what to play.**

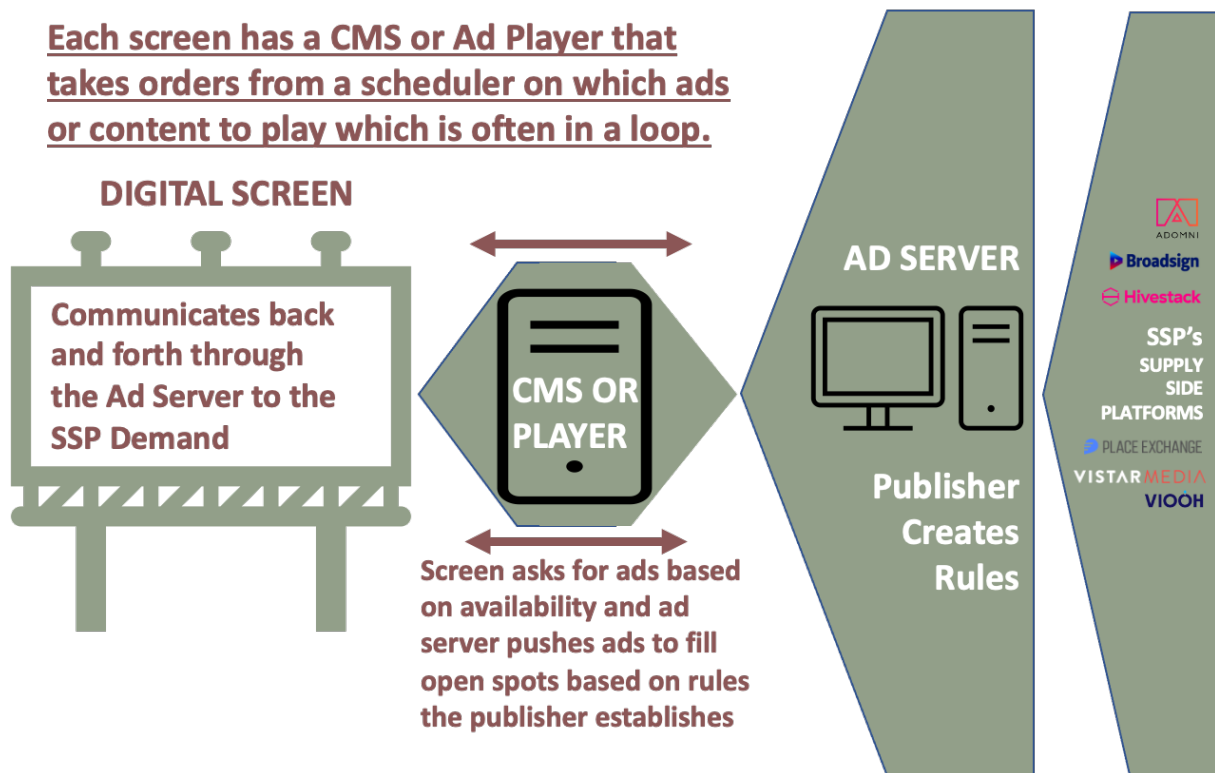


### Introduction of Ad Serving

Today there is a growing number of supply side platforms (SSP's) for DOOH Publishers, and it makes sense the publishers would want to connect their inventory to these multiple supply options to maximize their revenue potential. The reason to connect to multiple SSP's is that

there are multiple demand side platforms (DSP's) and each may have their preferred SSP, so connecting to a single platform could mean a publisher is missing demand opportunities. In the past, unless the publisher had in-house capabilities to create and maintain API connections to all the different SSP's, they had to use dedicated container connections which limited the demand to a single SSP for each dedicated ad slot. The Ad Server has changed all that.

**Ad Server based dynamic ad scheduling where the Ad Server sits between the screen/CMS and the SSP's. Communication goes two ways making the ad serving more dynamic.**



The ad server takes on the heavy lifting of coordinating the ad schedule in real-time based on many factors including direct sold ads, content requirements, open ad slots, and demand from multiple SSP's. The decisioning can be based on rules the publisher establishes. Today most of the decision is based on revenue so the highest price wins, but as this gets more dynamic publishers will be able to program in preferred partners and the ad server can ensure direct deals meet their requirements while optimizing demand through programmatic channels.

Publishers who connect through a container connection can now enable each ad spot to entertain demand from multiple sources as opposed to being locked down to a single dedicated connection between an ad spot and an SSP. The ad spot is now dedicated to the ad server as opposed to a single SSP and the ad server then speaks to multiple SSP's who can compete for the inventory.

If you are a publisher, you should prioritize connecting through an ad server. Most full-stack ad-tech solutions include an ad server option.