

# thinMobile CDN™ with thinSplicer™

– How TMI's thinMobile CDN™ supports playlist functionality

Version 1.0



## Introduction

Thin Multimedia, Inc.'s thinMobile CDN™ enables Content Providers, Mobile Advertising Publishers, and Wireless Carriers to deliver advanced multimedia content on over 100 mobile devices. thinMobile CDN™ streams live or on-demand video or audio content to a vast range of mobile devices.

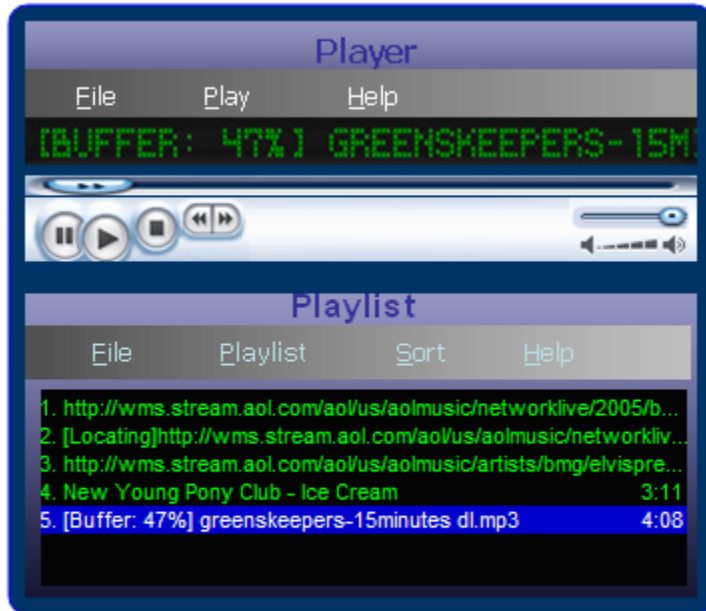
One of the most powerful components of thinMobile CDN™ is the thinSplicer™. This component enables the playback of content without re-buffering or reconnecting between each individual stream, similar to an online media player “Playlist”. The user will experience this seamless playback regardless of whether the content is coming from one place or multiple locations. thinSplicer™ provides standard playlist functionality to users regardless of the location of the content; and provides seamless pre-roll, post-roll or interstitial insertion of multimedia content into a requested stream. The most common use case would be to insert ads before, after or during the delivery of videos or audio streams.

thinMobileCDN™ with thinSplicer™ allows media companies to provide the highest quality end-user multimedia experience and enables new revenue streams through the use of advertising.

### 1. Online Playlist Overview and Features

A playlist is commonly used in various online media player software to control or organize lists of songs or multimedia files. Playlists allow users to organize their songs or other media files into customized groups and/or categories.

Below is a screenshot of a playlist which is used with the common MP3 players in the online world. In order to provide playlist functionality, MP3 players use their own music playlist file format which allows users to select any MP3 file and add it to a favorite list that they create. This functionality allows users to add, delete, order and/or randomly select multimedia files to fit their specific tastes.



Inside the playlist file, the artist and title is shown followed by the file location with the file path.

If you want to play a file which is located on another website, you can simply specify the alternate URL(s).

Example:

```
#EXTM3U
#EXTINF:
http://~~~~~~/1.mp3
#EXTINF:
http://~~~~~~/2.mp3
#EXTINF:
http://~~~~~~/3.mp3
```

Based on the list of files, after one song finishes, the player automatically goes to the next file and begins playing it—utilizing the specified URL if the next song is located on a different website. In this scenario, the playback is not seamless since there will be a time gap including re-buffering as the next song is initiated.

Though music playlists are much more popular, users are also beginning to use playlist functionality for videos as well. Using the same method as a music playlist, a user selects videos and can play them sequentially or use features such as shuffle or random. As opposed to a music playlist, this client uses the video playlist format to store playlist contents. With a video playlist, pre-roll and post-roll advertisements can be easily inserted into online movie services or mixed content play services.

Both music playlist and video playlist files are text files that contain the location of the full set of media files in the playlist. The location can be either a local pathname or a URL. One by one, based on the playlist, the player finds the location of the media file and plays the file. When it is finished, it finds the location of the next media file that is listed on the playlist. There is a time gap during the reconnection and the buffering for each file.

## **2. Playlist Service on Mobile**

In today's mobile world, people want to experience music and multimedia features on their mobile devices in the same way they do on their personal computers. They want to listen to their own selected music list(s), and/or they want to see their own selected movie(s) on their mobile devices. However, in the current mobile world, there is no playlist functionality support that is comparable to the features supported by online players.

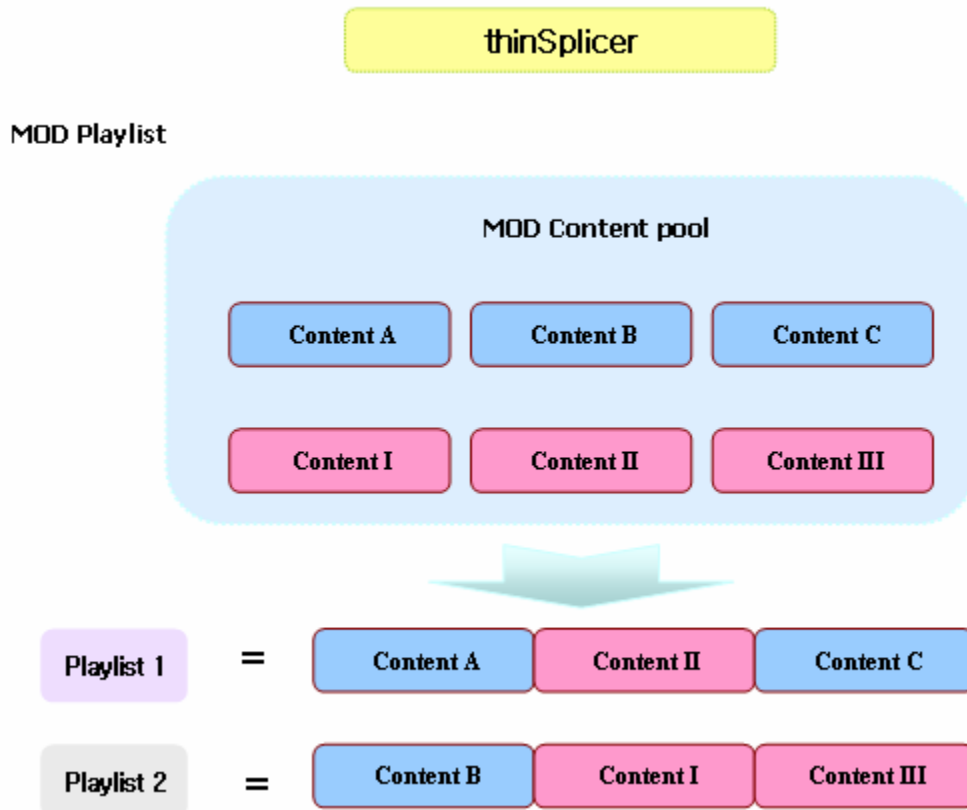
As a result, there is no way to support a mobile playlist service unless a dedicated downloadable player application is created to support this feature. Even if a user can download and create a playlist using an application, it still doesn't solve the reconnection and re-buffering issues. On mobile devices, because of bandwidth constraints and device processing power limitations, the user experience is dramatically impacted because of frequent and lengthy delays whenever a player is trying to switch and connect to the next content.

## **3. What Does thinSplicer™ do?**

thinSplicer™ supports playlist functionality on mobile devices. thinSplicer™ creates a dynamic playlist on the server side which allows it to support playlist functionality using the mobile devices' native player without installing any additional software.

thinSplicer™ provides ordered-play functionality of any content and also supports "shuffle" or "random play" functionality. thinSplicer's most significant feature is the

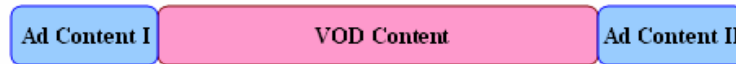
capability to stream continuously without reconnecting or re-buffering of any multimedia file. Each file in the playlist will be seamlessly streamed without re-buffering so that each playlist is treated as one large file.



### Ad Content Insertion

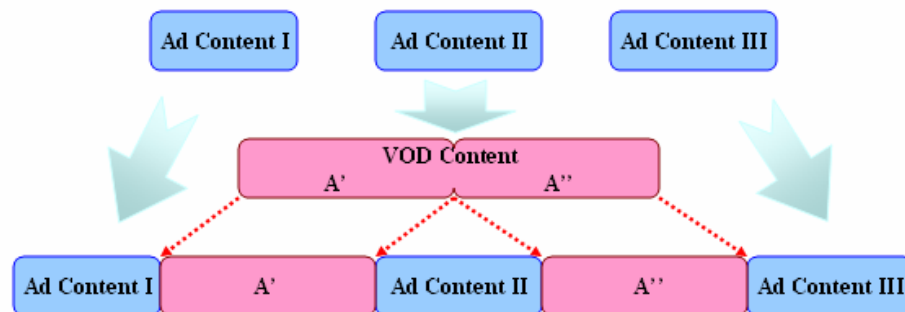
#### Case 1)

Pre-roll & post-roll



#### Case 2)

Interstitial



If required by the content provider, thinSplicer™ can insert pre-roll and post-roll content at the front and back of any audio or video file. Additionally, thinSplicer™ supports interstitial insertion of content while a file is playing, such as advertisement insertion in the middle of a movie.

## 4. Target Markets for thinSplicer™

thinSplicer™ has two directly applicable market segments. As described above, it can be used to provide playlist functionality for mobile devices, including user-generated playlists for Music On Demand; or, it can be used as a dynamic Video/Audio Advertisement server.

For content providers or mobile advertising publishers who want to insert any media content or advertisements at the beginning, end or into the middle of a streaming media file, thinSplicer™ provides ad content insertion features and seamless content processing features.

With thinSplicer's advanced features, end users can experience a seamless, quality streaming experience on their mobile devices. Content providers and mobile advertising publishers can increase user adoption of multimedia services by providing the necessary playlist functionality and can recognize new revenue streams through pre-roll, post-roll or interstitial advertising insertion.



## **For More Information**

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