

Authoring Constraints for SMPTE-DCP playback.

ISDCF discussed what is needed to have a successful deployment of SMPTE-DCP. We developed the following matrix with a constrained authoring set to achieve minimum problems in deployment.

	SMPTE-DCP-A	SMPTE-DCP-B	SMPTE-DCP-C
	<i>All authoring and playback systems should make and play this content</i>	<i>All playback systems should play this content (without necessarily responding), but authoring can not yet build these - ETA 2015</i>	<i>No players or authoring can make or playback this content. It is the expected next step for SMPTE-DCP capability</i>
Audio	Conf 4 - WTF ISDCF Interop	Conf 4 - WTF ISDCF Interop	True MCA**
Subtitles	Subtitles (no entry point duration)	Subtitles (no entry point duration)	Subtitles (no entry point duration)
Captions	Closed Captions	Closed Captions	Closed Captions
Open Captions	Open Captions	Open Captions	Open Captions
TKR (Theater Key Retrieval)		TKR	TKR
Markers		Markers	Markers
CPL Metadata		CPL Metadata	CPL Metadata

** Random Routing based on MCA (Multi-Channel Audio) descriptors

We believe all deployed (and updated) systems in the field will be capable of playing SMPTE-A and all authoring systems can build SMPTE-A DCP content. The two constraints on authoring are:

Audio: Use SMPTE audio configuration 4 and layout the audio in the format of ISDCF recommended audio configuration (See <http://isdcf.com/papers/ISDCF-Doc4-Interop-audio-channel-recommendations.pdf>).

Subtitles: The subtitles need to be configured to be constrained to play on all deployed (and updated) Series 1 DLP projectors:

- Use EntryPoint and Duration with knowledge of the timeline
- Do not use an EntryPoint that you know will be beyond the current point on the server provided timeline.
- EntryPoint for reel1 could not be larger than 00:00:00:00. EntryPoint for reel2 could not be larger than Duration of reel1. EntryPoint for reel3 could not be larger than Duration of reel1 + Duration of reel2, etc.

We believe all deployed (and updated) systems in the field will be capable of playing SMPTE-B (although not always responding or acting upon the information), however the deployed authoring systems are not yet capable of adding CPL Metadata and Markers or KDM SMPTE-A DCP content.

We believe the next step in the deployment is to include MCA (multichannel audio) to the SMPTE-DCP package. Currently we don't expect any systems to properly route the audio and the deployed mastering systems are not capable of making these packages.