ISDCF Main Meeting Notes – June 15, 2023
In person at Harman / hybrid zoom

<u>Upcoming Meetings</u>

Wednesday July 19, 2023 (Zoom only)
Wednesday August 23 (in person / zoom)
September 27?? (Zoom only?)

Thank you to companies that have committed to sponsoring ISDCF for 2023.

2023 ISDCF Sponsoring Companies

2023 Sponsoring Companies: AMC, The Cinema Foundation, Christie, Cinionic/Barco, Deluxe, Dolby, EIKON, GDC Technologies, Harkins Theatres, Marcus Theatres, NATO, Paramount, Pixelogic, Qube, Samsung/Harman, Sharp/NEC, Sony Pictures, Texas Instruments, Universal Pictures, Village Cinemas Australia, Walt Disney Pictures, Warner Bros., Xperi/DTS

Part 1: General Reporting

Housekeeping:
- Zoom meeting (provided by NATO)
- Set next meeting dates (above).
- Thank you ISDCF for support of the Chairman.
- Thank you for Harman for the facility / coffee
- Thank you to Dean Bullock for providing general expenses and admin support.
- Meeting notes from March / May '2023 approved (OK to post to open website)

- Legal reminder / press reminder / Antitrust Disclaimer. The official antitrust guidelines are posted on our website and are linked from the main ISDCF page. A short verbal overview of guidelines was given. Please no-social-media for discussions held at ISDCF.

Attendance is at end of these notes.

Action Items from June 15, 2023

1. Continue work on audio test material for non-perf screen
2. Hold a call of the security subcommittee to discuss possible workshop and/or tutorial on the big-picture of security in digital cinema (Dean)
3. First draft of metadata fields in CPL and expected operational actions based on these fields (Steve)
4. Create new request to join committees
5. ISDCF and make a recommendation that manufactures/studios issue notice when playback hardware won't be supported by either studios or manufacturers in the future a year in advance (for non-emergencies).
6. ISDCF could send a note to SMPTE on the possible impact of changes on industry (GDC offered to create draft)
7. ISDCF chairman to send note to SMPTE to openly publish the change list contemplated that may impact future playability of content.
8. Review requirement list for personal device use in theater for closed caption and alternate audio track (Dean)
9. Start a projection letter service for the industry to distribute *exception letters* for upcoming films (DCDC)
10. ISDCF to encourage CIT to build the test sequence and language for the presentation monitoring.
11. Everyone is invited to add terms to the terminology document (incorporated into the NamingConvention site). We need to write an introduction to the site (Jerry).
12. Next ISDCF meeting have a call out for standards for streaming delivery (live and pre-recorded)

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Future of ISDCF - Financial Report

Doing well with payments. Invoices for individual members should go out next week.

ISDCF has received sufficient funding from our members that we will be good for 2023 and will return to a full schedule of meetings and subcommittees. Thank you! We anticipate (and encourage) more topics to be included in future discussions.

We held a members-only organizational meeting on May 10, 2023 and made a number of tweets to our communication methodology and structure. The action items of this zoom are described in the action items at end of these notes as well as approved meeting notes that have been published.

First, we have decided that we will move back to a discussion list means of communicating and not slack. A new address (**members@isdcf.com**) will be the primary means of discussion for members. The existing **isdcf@isdcf.com** announcement list will remain in place for general announcements to the community, but won't be used for discussions.

ISDCF will hold pre-meeting cocktail parties open to members (generally the evening before in-person meetings in Burbank OR BYOB Zoom the evening before Zoom meetings.) These are very informal and allow topics to be vetted prior to formal meetings and also allow Jerry and Steve to show off their latest photos. This was announced and was open June 14, 2023 - 12 RSVP'd and 2 showed up. We need to work on our RSVP skills.

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Should ISDCF host webinars for deep dive on aspects of digital cinema (mainly technical issues)?

After discussion, we think this would be an as-needed general webinars for specific topics (like Digital Cinema Security). We may find topics later in the year.

One suggestion is addressing of mastering and display of HDR content.

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Big Things Happening - Open Question

The unusual TMS crash identified last session has not been definitively explained. Those discussions (and future "restrictions" for mastering content to avoid the problem) are on-going with manufactures. It may remain a mystery.

FYI the movie "Elementor" has been mastered for HDR1 (300 nits / DCI specification). It is being shown locally at the Amazon Culver City theater.

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ISDCF Subcommittee Reports

Audio Subcommittee

They met a few days ago and have a first-listen to some of the content. We are looking at the movie "The Patriot" for clips that could be used. (Any suggestion of an appropriate clip, please let us know.) If you want to be a part of the committee, let Jerry know.

Security Subcommittee

Possible Seminar? A workshop to discuss the details of encryption and security of digital cinema and the primitives would be helpful.
Topics:
- The use of SHA-1 in digital cinema since that seems to be on the way out in general use due to changes in the industry deprecating SHA-1
- Security from FIPS 130-2 to FIPS 130-3 — what if they move to FIPS 130-4 do we want to get ahead of future changes?
- General framing discussion/seminar about Digital Cinema (what where they THINKING in 2005 when the first specification was released and WHY so we can frame all the future changes with an understanding of the motivation)

CPL Metadata Subcommittee #metadata-behavior

Not sure where we are on the committee (slightly adrift). We held one meeting and identified a number of topics, not not clear where to go.

One is to add an entry in the metadata for audio loudness. Not sure what would be the use, but a desire to have a place to put this info. (Not even clear what units would be defined.)

A suggestion was made to have a set of recommended operational behavior for the included CPL metadata. BUT these tend to NOT be the features that users request from the field for desired attributes for new features.

Steve will make a first draft of listing metadata fields and what *he* would expect equipment to do with that information. This should encourage further discussion.

Leftover: We need a way to identify if there is a subtitle was burned into the content. Currently this information is in the CTT, but not in the CPL.

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End-of-Life equipment

A few weeks ago we saw hardware that is no longer allowed to play encrypted DCPs from one studio. The piece of equipment has been in the field since before CTP (compliance test plan) so was not "officially" on the DCI list, but it has been receiving content until recently. This studio notified owners of this hardware that they would no longer provide content to these systems.

While ISDCF is not in a position to evaluate systems, we can request that manufactures and exhibition be given sufficient warning of upcoming changes that would trigger these changes to functionality of equipment.

We all want to need to have warning - maybe at least a year - for when systems won't be supported.

What to call it? End-of-Life? Legacy? Non-supported? Non-compliant? No one of these terns really fit the issue at hand.

The immediate hardware in question **was not** being supported by the manufacturer due to age. One studio decided that it would not provide keys to playback encrypted playback device due to security concerns. The notice came about 2

months before the equipment would not be supported. Exhibition needed more time to react. In this case it was an "emergency".

We should expect other systems to experience non-support in the future and we need to find a more organized way to communicate changes. It may be private communications between parties.

When manufactures are no-long supporting products (like Apple issues a "legacy" device notice for old iPhones) that users should be on-notice that these products may be at end-of-life, but not end of service.

We see a possible change to the security standards coming (SHA-1 to SHA-256) that may require older equipment to be updated to play new content. This is to-be-determined, but could have a major impact on the industry in the next few years. This is being discussed in SMPTE now. We may be able to provide a draft roadmap for changes in security/standards. GDC offered to write a draft note from ISDCF to SMPTE / DCI / CTP with a roadmap.

As an example the industry converted from InterOp-DCP to SMTPE-DCP took a LONG time (10 years?) and if this is a conversion from SMPTE(1) to SMPTE(2) we need to understand the conversion and times.

We should also address other new features (REC-2020, HDR, etc) for upgrade paths.

History Lesson: The original intent to the SHA-1 hash was NOT as a security element, but a differentiation means. If SHA-1 is no longer considered secure that should not have an impact on the security of the digital cinema ecosystem. One vendor made a strong statement that they are NOT going to be removing SHA-1 from any equipment.

Things are happening inside of SMPTE/DCI that may impact the industry in significant ways. Users need to contact their vendors to understand and influence the SMPTE activities that may impact the industry. The ISDCF chairman may write a short request to SMPTE to openly publish the contemplated changes to the spec that might impact playability in the future.

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Trailer Encryption

A head's up that we may be seeing more encrypted trailers being released with specific time windows. There was a "leak" of a highly anticipated trailer early and this was seen as a problem.

While there was no objection to the release of encrypted trailers, it was requested that the **time-window for the key for playability of the trailer be long**, even if an unencrypted trailer is released soon after. Operationally it may be challenging to go from one trailer to another weeks into the use of a trailer.

One studio changes the name to be "Trailer1ENC" vs "Trailer1" so the user can tell that it's the same trailer, but one is encrypted and the other is not.

Should there be an addition to the naming convention to indicate that a trailer is encrypted? Probably not, most servers already list if a key is needed for content.

This may be an automation in the TMS issue and the manufacturers/software teams should be aware of this issue.

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ISDCF Immersive Audio

It seems that we still using ATMOS label instead of the IAB label.

Not clear how we are going to move forward. One vendor has pleaded with studios to make the change and they will HELP make it work.

We thought the change from InterOp-DCP to SMPTE-DCP was hard. This one is JUST the name and we can't seem to make the shift as an industry. Doesn't give us hope for more serious changes in the future.

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Accessibility with smart Phones

The chairman created a possible requirement list for smart phones in theaters, a preamble and a proposal for one way it might be met. Posted here: THIS WAS NOT A PRODUCT OF ISDCF or of OUR DISCUSSION. This was a draft document to get the conversation started.

In-Theater Accessibility

Closed captioning of movies has a long history. From the "rear window" presentation for reading the captioning through reflective glass at the seat to the current set of cup mounted devices to show captions. There are other devices that provide assisted listening and alternate spoken languages. Increasingly there are open (on screen) captions being provided.
The current generation of 'cup holder' closed caption devices are at least 15 years old and are nearing end of life - both in their capabilities and in the availability of parts for manufacture. Some companies have begun moving to modified cell phone devices. Other companies are providing apps for personal devices to provide solutions to closed caption, audio tracks and also sign language. There needs to be some common solutions going forward to help provide solutions for studios, exhibitors and patrons.

In order to accelerate this development we have started a **criteria list for features/attributes for future devices to provide in-theater accessibility**.

Criteria:
- Must use personal devices (iPhone, Android), can use dedicated devices. (Does not need to be backward compatible with current accessibility solutions.)
- Co-exist with current accessibility solutions (transition period and beyond)
- Provide closed captions in many languages at the discretion of the content provider. Movies and trailers.
- Provide spoken languages and for hearing impaired/visually impaired at the discretion of the content provider. Movies and trailers.
- High bandwidth delivery (video possible)
- Must be compatible with future augmented reality headsets
- Does not "glow in the dark" that would bother nearby patrons
- Does not endorse/encourage piracy (no camera facing screen during use)
- Will not play except in theater with movie
- Easy to use for patrons and theater staff
- Content provided by studio
- Understand intellectual property claims on technology
- Non-proprietary solution
- Content encrypted and never available in clear text form (only on-screen or headset)
- Content not accessible to simple hacking tools
- Low cost solution to add to existing theaters

Proposal:
- Cloud base delivery of content to smart phone devices for a specific movie and current trailers.
- The theater provides plastic bags to hold smartphones with a privacy screen on one side and an opaque back side (no camera pointing to screen). Single use or cleaned between uses.
- Theater provides an arm to hold smartphone in cupholder (could be part of privacy bag)
- The App would detect the audio track of the movie to synchronize to the movie. If the audio track was not recognized, it would not play (restricting use to only in theater for playback).
- It could be a universal App or the protocols would be provided for multiple App designers
- Possible option of using an ultrasonic burst for identification of content, providing decoding key and synchronization for playback.

https://docs.google.com/document/d/1tMddeoCok0Ee5GJ7Zw3PpRORLqChtrQLGEGeuPWFD1c/edit?usp=sharing For editing

It would not replace the current systems, but in the future theaters could move away from the existing system.

A concern is the content encryption. Shouldn't this have CTP required for software in personal devices?

There were questions on the proposed solution for clarification:
Does the theater provided device need to have cell service? It must be able to received content from the cloud prior to entering the theater. This could be wifi in the office. This would make these devices less expensive and less susceptible to theft. But to be clear, the theater can continue using their current solution and is not required to move to the new solution.
Comment: The old system of providing all the information in the DCP has been the standard. Moving to an out-of-band delivery is a departure. Some studios have been open to other services that provide these out-of-band delivery, so the proposal above was made. (Open to other solutions that meet the criteria.)

It is critical that studios to have a discussion on the suitability of this approach. We need to have a discussion for the required security of all cinema tracks.

Does this system need to address live in-theater events for both closed caption and hearing impaired? If so, the cloud based system might not work.

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Break
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Projection Letter Distribution Service

At the last meeting we began the discussion for "how to get messages to the projection booth" for EXCEPTIONS. The chairman put together a more detailed description: THIS WAS NOT A PRODUCT OF ISDCF or of OUR DISCUSSION. This was a draft document to get the conversation started.

Projection Letter Distribution Service

In ancient times, the distribution company would include a "projection letter" inside every can of film that was shipped. This was a consistent means of communication with each and every booth. Special information on each particular presentation would find it's way to the right person.

In these times of electronic distribution - satellite and broadband delivery - we have lost the ability to consistently communicate with the booth.

In particular, there is a need to have an "emergency" channel to inform theaters about unique and unusual aspects for a particular presentation. Non-standard aspect ratios, changes in the naming of contents (IAB in place of ATMOS), multiple versions shipped, etc.

Some exhibitors use their NOC (network operation center) to distribute these exceptions, but even that is not as reliable as we would like.

The CIT has developed a proposal to create an "Exception" projection information channel. Studios/Content distributors would identify content (movies or trailers) that are unique and need special care. These information sheets would be prepared to sent to a new projection letter distribution service. This service would reach out to all exhibitors and request email registration for everyone that would be

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interested. This would include individual theaters and well as central offices for exhibition. The agreement would be that ONLY exception projection letters would be sent and marked as URGENT.

Maintenance of the list would be critical. A website would be created to post past postings and individuals / companies would be able to maintain their membership/emails. The website would need to be members-only and as a start it might be NATO membership, but that should be considered.

DCDC has offered to organize this service.

It should have international reach. It should be restricted to just theater operators and not the general public. We need to get the email list to the right people - operations of a theater (and self registration). Manufacturers want to be on the list as well (to respond to issues).

No studio pointed out that not ALL theaters play ALL movies so we might be blasting too many locations. We need to keep it simple.

Studios want to issue these notices ahead of the release of the movie (or KDM).

In general there were not objections to DCDC moving ahead with providing these services.

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Presentation Monitoring

At a number of meetings with studios and creatives is a concern of the quality of the presentation on the screen - both image and audio. The following introduction to a possible means of identifying problems is presented for comments to ISDCF: THIS WAS NOT A PRODUCT OF ISDCF or of OUR DISCUSSION. This was a draft document to get the conversation started.

Presentation Monitoring

Theaters always strive to achieve the best possible presentation for sight and sound. It is a challenge to review all screens in a complex, especially with a limited number of skilled staff.

CIT developed an innovative suggestion to address, quality, staff engagement, and an invitation for staff to further develop skills. The concept is to create short - 2-3 minute - creative driven promotional content that includes an introduction by a creative/actor and includes a test-sequence of a framing chart and a sound check. These would be optionally intended to play BETWEEN shows when the staff would be cleaning the auditorium in preparation for the next show.

The introduction content could include appreciation directed to staff as encouragement and could be instructional. This could be a reach out by the Cinema Foundation to engage those supporting our industry to say something to those that are directly making the theatrical experience better.

The test-sequence could include a voice over - "Does this fill the frame? Do the faces look natural? Can you hear all the channels at the same volume? If not, say something to the manager - see something say something!"

This content would be provided to theaters and would encourage them to play it a few minutes after the movie has completed or when they think the best opportunity to reach staff.

A key element of the presentation would include instructions on what to look for and why.

It would play 3-5 minutes after the show when the cleaning staff might be in the theater. It might play to an empty theater, but it MIGHT allow someone might see something. We might have a full frame white and use a smart phone's LUX meter to give a rough idea of the brightness. The minimum would be to make sure the sound was going to play correctly.

It may be that the key benefit of this would be the training of the staff when they are in the room. There may be a problem with the work lights are on at the same time for image quality/brightness.

Should ISDCF make a recommendation for what to test. Should ISDCF make the content?

The suggestion was for CIT (Cinema Foundation's Center for Innovation and Technology) to create and distribute this content. ISDCF will monitor and nudge if needed.

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Future of hard drive delivery

It's been 15 years and many of the initial CRU drives are still in service - but are getting older and need to be serviced. Is it time to revisit our recommendation for use of the CRU as the recommendation for digital cinema? Should we have a roadmap for changes? Short answer we will still have a limited number of delivery of hard drives and CRU remains valid.

Probably not for ISDCF.

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Future of 3D?

Should ISDCF make any statements on required quality needed for 3D or the general future of 3D?

Bottom line: ISDCF is probably not the right forum to make any statements or make any recommendations for 3D.

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Naming Convention

Nothing to report. Lots going on, but business as usual.

The ISDCF website has been moved to an independent Dreamhost account and the registry of isdcf.com and intersociety.org has been moved to our Amazon web services account.

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Terminology Registry

Initial terminology registry has been started! https://registry-page.isdcf.com/terms/
We need to add more terms, but we have the start and the GitHub registry is open and ready for additions and pull request to update (https://github.com/ISDCF/registries/blob/master/src/main/data/terms.json) We need to have an introduction written to the registry. An API version of the JSON is also available at https://registry.isdcf.com/terms/.

Frank and Jerry will need to write the introduction.

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Event Based HDMI control

There is a lack of standards relative to streaming content. There may be a need for a group discussion on how best to have a common format to delivery to theaters. (Feels like the early days of digital cinema.)

We may want to call a meeting / discussion of standards for all delivery to theaters. This may includes current DCI platform and/or use of the HDMI port as a hand off point.

This may be a call for a requirement document and a need to identify specifics.

Nick Mitchell / Kirk Griffins may be resources to help us organize this.

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SMPTE update

Many documents for digital cinema SMPTE standards are out for balloting. If you are a member, please go to review and vote. Posted are the main document and the red-line version as well.

FYI New executive director at SMPTE is working to get them on track for improving the standardization efforts.

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The Cinema Foundation

No updates.

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EDCF

No updates.

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DCI Updates

No updates.

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Review of Action Items from last meeting.

Action Items from March 8, 2023

1. **Membership Invoices 2023 New invoices will be issued following this meeting.**
2. Add OPNCAP for open captions as an alternative to the OCAP marking (posted)
3. Create GitHub registry for the terminology document (from the excel sheet supplied) (posted)
4. Have the terminology registry available on the ISDCF website (posted)
5. PLEASE review when the terminology registry launches and make comments/tweeks (request out now)

Action Items from May 10, 2023

6. **Find a service to provide ISDCF a physical address (scanning of mail, suitable for bills/tax statements)** (Done - 145 S Glenoaks Blvd #1099, Burbank, CA 91502 +1 818-280-9914)
7. **Hold ISDCF board meeting to discuss hiring an admin to help with membership management and accounting (possible to find other volunteers)** (in process)
8. **Send a note to each member company to identify others that should be on the member's discussion list and to identify the lead contact (for invoicing)** (done)
9. **Create a members-only section on the website as a place to go for posting of member's only information, listing of companies (and who to contact), and a place to**

manage membership. (Done - but nothing there yet)

10. **Create a new ISDCF account at DreamHost and move all current services that are on Jerry's personal account to the "corporate" ISDCF account.** (Done)

11. **Make the pre-ISDCF meeting cocktail party official and invite more to join - Don Cucos or equivalent.** (Done)

12. **Determine if audio test material ready for first evaluation on June 14n** (it wasn't, still underway)

13. **Please let Jerry/Steve know to identify primary contact for your company and any additional people you want on the discussion list.** (Done.)

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Attendance on next last page.