

ISDCF Main Meeting Notes – January 29, 2019

Upcoming Meetings

Monday / Tuesday February 25 / 26, 2019 Audio Immersive Plugfest

Wednesday Feb 27, 2019 ISDCF Main meeting

Wednesday April 17, 2019 ISDCF Main meeting

Wednesday ~~June 5, 2019~~ ISDCF (probably will need to be re-scheduled.)

(Will try for Wednesday meetings as often as possible.)

Part 1: General Reporting

Housekeeping:

- Introductions around the room
- Set next meeting dates (above). Next lunch: Inter-Society will again pay for lunches.
- Thank you Universal for the facilities and parking.
- Thank you Universal for support of the Chairman.
- Thank you to Inter-Society for providing the funding for travel, general expenses and admin support.
- Thank you to Universal for the coffee and treats
- Meeting notes from December '18 approved
- InterSociety request to be a member! \$500/company. You can join from the link on the front page of ISDCF dot com.
- 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. The information is on the front page of isdcf(dot)com. We have added the no-social-media request for discussions held at ISDCF.

* Chatham House Rule:

- * When a meeting, or part thereof, is held under the Chatham House Rule, participants are free to use the information received, but neither the identity nor the affiliation of the speaker(s), nor that of any other participant, may be revealed.

Reflector discussions: There was a pixel count discussion, however it would be better on the ISDCF Forum. Also there is a good book by Charles Swartz "Understanding Digital Cinema" that may help understand history.

There was a personal attack and rant on the reflector. This is unacceptable behavior on the reflector. You may lose your rights to post if you engage in this kind of behavior.

Inter-Society will hold a meeting at CinemaCon - probably on Wednesday at 7:30am. Topic will come!
Attendance is at end of these notes.

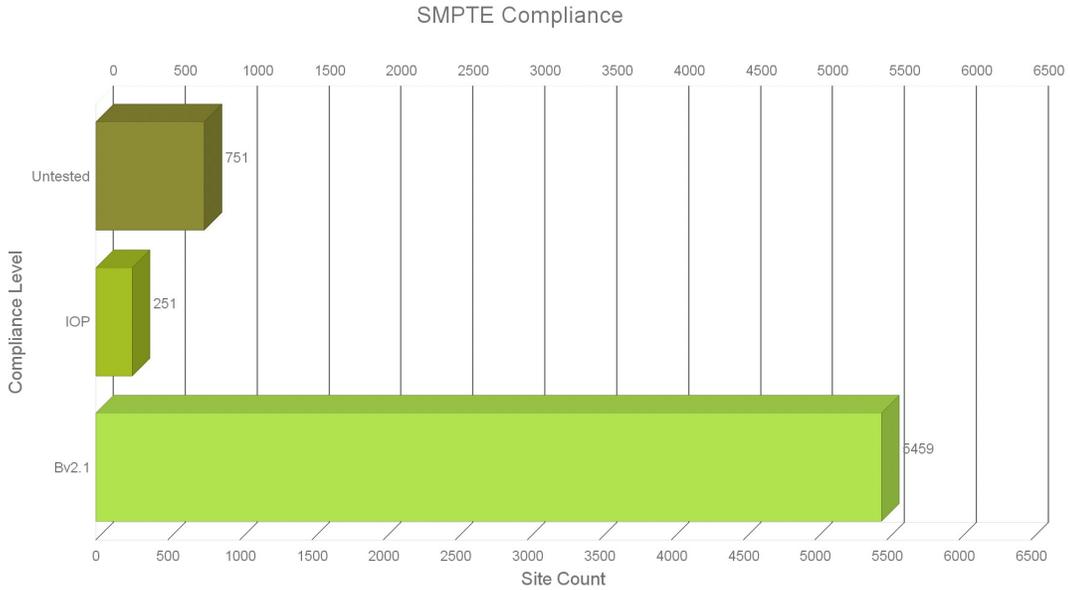
Action Items from January 29, 2019

1. Please Join Inter-Society! <http://isdcf.com/ISDCF/membership-status.html> \$500 per company per year, \$100 individual membership.
2. If you want to include a note to non-SMPTE-DCP sites, get a message to Jerry (end of February note to go out)
3. Post new versions of the framing charts and new (corrected) versions of B2.1 content.
4. Supply Jerry with lists of equipment that is intended to be part of the immersive audio plugfest to include on the plugfest webpage.
5. Steve to formulate a proposal on how to incorporate the naming conventions codes for studios and facilities into the formal CPL metadata structure. Share with others to bring back next ISDCF meeting or move to SMPTE.
6. Jerry and Pierre will review the Naming Convention website to update Content Type and do a clean-up pass for the site to make sure it's reflecting current practice as we shift to all SMPTE-DCP.

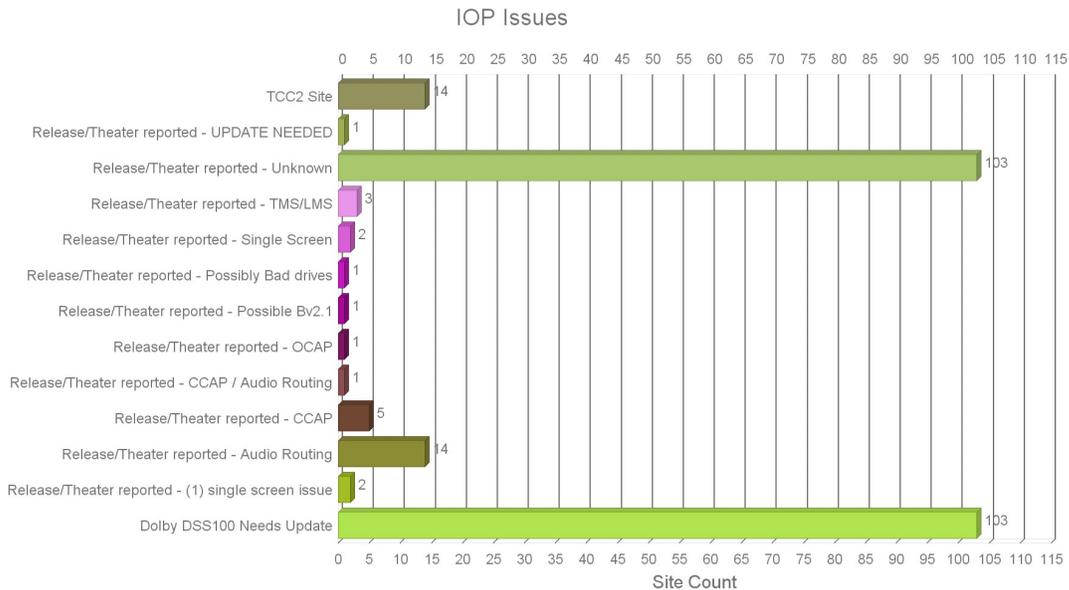
From Last Meetings:

7. Pierce will send the next "nastygram" to exhibitors that need to be upgraded in February 2019.
8. Get a new version of SMPTE-DCP B2.1 with fixed CPL.

SMPTE-DCP Updates



Charts were presented for current status of compliance and unknowns. The 251 IOP sites, most of them don't play current movies, are very hard to get feedback on what's wrong with playing SMPTE content.



NATO plans to send another note to these sites end of February, again noticing them that after April 2019 they may have problems playing current releases.

If anyone wants to add to this email blast, please contact Jerry ASAP.

The transition to SMPTE-DCP trailers is a bit more difficult since there are many trailers in the pipeline and releasing a SMPTE-DCP only trailer drive will require the transition date to have many produced in both formats.

Internationally things are moving well. Poland, Italy, Switzerland, Belgium - EDCF is working on helping the transition. Many are collecting data from France, etc.

Congrats to Comscore and others for moving the TCC2 fixes into the marketplace. This major obstacle has been addressed and is essentially fixed now.

Brazil and Australia are going to be problematic. It is not the equipment, but infrastructure getting in the way.

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Update to SMPTE Standards to formalize the version of B2.1 test content is still moving forward.

A proposal is forthcoming on how best to introduce the SMPTE standard - perhaps an application or a SMPTE specification. It's on the way!!

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Immersive Audio Plugfest - Monday afternoon (set up) and Tuesday, February 26 for the plugfest starting at 8am

Plugfest Goal: A chance for manufacturers and service providers to make sure the SMPTE standard bit stream, packaged in a DCP, is able to be ingested and plays back across a number of systems. An opportunity to see if there are any issues with the spec. THIS IS NOT A LISTENING TEST! Although we will hear sound, it is not to do a quality playback of the sound systems.

Status: We have a number of bitstream posted on the ISDCF website plugfest page.

Bitstreams from Fox to be a “killer reel” to test most of the important aspects that are part of the SMPTE standard ST2098-2 - including:

- Bed Gain Test
- Simple bed channel routing
- Bed Decorrelation
- Object Gain
- Moving Objects
- Object Snap
- Object Snap Tolerance
- Object Spread (Low resolution, One dimensional, 3D)
- Simultaneous Object Load test (increments from 10 --> 128)
- Authoring Tool Metadata Test
- Multiple Combining Bed
- Replacement Beds
- Bed remap tests
- Test that subblocks are not being dropped
- Zone gain test
- Etc.

Tests at 24 fps, 48 fps and 60 fps

Go to the website <https://isdcf.com/ISDCF/pluginfest.html> to download the (encrypted) content and you can ask Mike for keys... If someone wants unencrypted versions, let Mike know.

On the way will be a Fox Trailer including the immersive standard and also a D-Box track.

Fraunhofer is also providing content for the plugfest. Similar to what Fox is providing. Links are on the website and these are unencrypted content.

Dolby supplied test source files for creating test content. This content is under Dolby license and has been supplied to a few companies for creation of bitstreams. These cannot be freely shared, but will be part of the plugfest on-site.

Experi / DTS will provide a trailer for playback as well. This will be content mastered on their system and packaged in the SMPTE standard.

There may be other content show up — it will be a surprise!

The equipment that will be part of the plugfest should be added to the plugfest web page.

To detail schedule: Dolby and Barco will have playback systems at the plugfest. DBox will be bringing equipment for testing. We expect other tools for evaluation of bitstreams to be participating in the plugfest.

We decided that this will be a one-day plugfest. Installation and setup will occur on Monday afternoon starting at noon. Plugfest adventures will start at 8am on Tuesday, February 25.

Are we doing dual KDM? Yes, at least one system will be dual KDM.

Anyone bringing equipment to the plugfest, contact Steve LLamb to coordinate delivery and interfaces.

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EDCF Information Update

(early in meeting so the European folks are awake)

Good progress in SMPTE-DCP roll out are going well. On track.

EDCF tour - two days prior to CinemaCon - visit post houses, facilities, exhibition and amusement parks - all for business. More information coming...

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Naming Convention

An issue with inconsistent “human readable” content in the CPL metadata. Take studio, for instance. It can be “Disney” “Disney Studios” “The Walt Disney Company” BUT the entry in the naming convention database is “DI” for Disney and (if in a registry) could be machine readable. But this is not defined in the CPL metadata.

Do we need a registry for CPL metadata, and which ones?

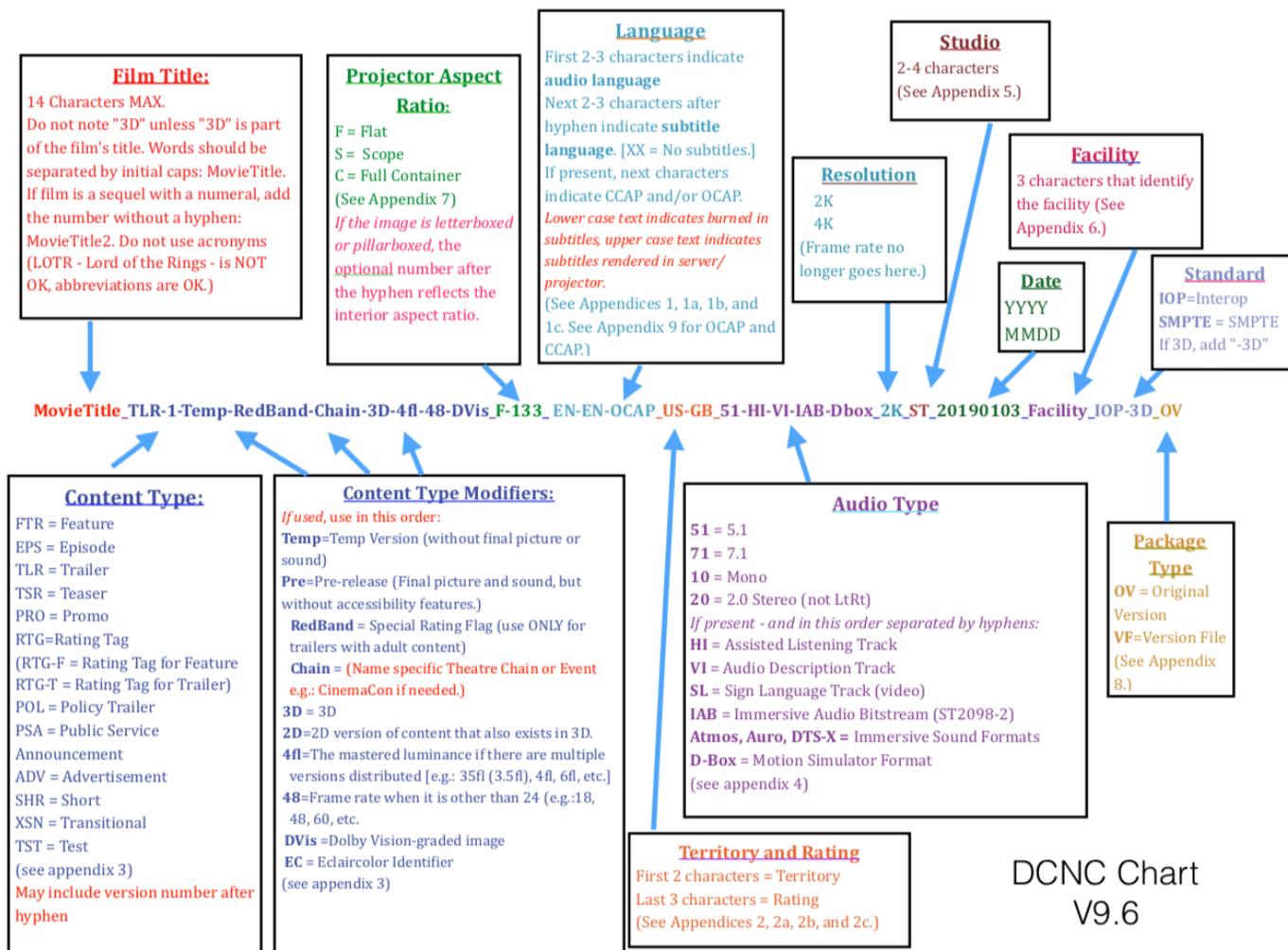
ISDCF DOES host a registry, perhaps we should formalize some of these values in our registry. Do we need to modify 429-16 metadata to include an additional code for these facilities and studios? Maybe a definable “scope” for facility and studio - a new separate field that relates to the naming convention codes. Extension metadata field is needed? Could there be a delimiter in the field?

Could we just add an entry to ISDCF’s CPL Metadata Extension for each studio/facility?

What is the real problem? The naming convention has been very successful in using a code to identify facilities, studios and there is a need to USE these codes in the CPL naming convention, since it is so successful. Steve will formulate a proposal to move something forward.

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A new version of the Naming Convention Chart was proposed to include Immersive Audio Bitstream and EPS Episode. We also need to update the matching between “Content Type and the 3 letter



descriptors” We have a spreadsheet that contains matching codes and we can link to this from the naming convention website “Content Type” page. Pierre and Jerry will meet and discuss.

DRAFT new naming convention chart... Addition of EPS and Immersive Audio.

It’s time to review the entire Naming Convention website and review many aspects of what is listed.

Can the naming convention go away? Short answer: probably not. The use of the naming convention continues to be used as the primary human interpretable naming. As much as we would like to

stop supporting the naming convention, it appears that we need to keep the naming up to date.

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Brazil Sign Language

Quick Update: The current overview is that many exhibitors are purchasing equipment now with the target of full accessibility by end of year.

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High Frame Rate

Monday night (yesterday) there was a demonstration of high frame rate content for an upcoming movie. The goal of the demonstration was to show test content that is a candidate to be used to verify that a particular theater is capable of playing high frame rate content.

We know that to play high frame rate content (3D60, 3D48, 2D60, 2D120, etc) it requires an internal media block and certain licenses (depending on the manufacture of hardware) and proper system/projector settings (like single flash). The best way to confirm that a system is capable is to play content and look at the content on the screen to verify it is playing correctly.

The distributor wants to understand the footprint of capable theaters — and add to the TDL a list of TESTED theaters that can play high frame rate. ISDCF is being asked to provide feedback on the content being used as well as the test procedures.

The distributor is evaluating what the details of what will be distributed, these demonstrations will help the distributor decide the actual distribution.

The content was 3D-60-2K and 2D-120-2K. These are at 250Mb/s bit rate. It was about 2 minutes long.

We held a discussion to provide feedback on this viewing.

Theater procedure: getting test content, have instructions on how to play it back and what to look for, then fill in a Survey Monkey to let the distributor and Deluxe know the status.

The test piece consisted of three test images of test patterns to “prove” the system was in proper settings. One was color, second was a cadence checker and the 3rd was a 3D test. This was followed by a number video clips of various scenes, including an **actor holding a gun**, stage fights, **bullets through a wood sheet**, a motorcycle track and wheat fields.

Suggestions:

1. Add subtitles and closed caption in an encrypted packages - these should be the instructions for what to look for.
2. Clean up the instruction language. KISS (keep it simple)
3. Too much content here - maybe 1 minute only
4. Keep the 3D (left/right) test pattern, combine with the color, keep the cadence checker.
5. Perhaps only one or two of the live clips - the gun sequence and the wood sheet being shot.
6. The cadence checker (60 dots) needs clear messaging, but it is really informative.
7. A suggestion that this content associated with a particular movie could be a problem - better if ONLY test patterns.
8. Good to have a particular movie name - this is not generic 3D content.

9. Content should consider NOT having downloadable content, perhaps include in a Paramount SMPTE-DCP release or a thumb drive.
10. Messaging and delivery of the test material through the bookers.
11. Survey Monkey as a reporting technique? The best feedback in past tests were verification that the site received a KDM.
12. Suggestion to add an audio track to say “you should see text on the screen, you should see a sequence of dots, you should see a left/right image” Using English is OK for most of the world.

As a result the following has been implemented.

Shortened test content includes:

- Cadence Check Leader
- 3D Alignment & Timing
- Color Patches for flicker
- Motion observation – two clips (2D & 3D) approx 4.5 minutes
- Added closed captions
- Content is encrypted
- Messaging and delivery of the test material from Sales/Bookers
- Content, instructions & questionnaire on MediaSilo
- Test results back to Bookers & distributor

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TDL List management - how to get updates to all TDL owners?

There was a need for a tutorial for theater operators of options for reporting of facility information to owners of TDLs. We also identified a need for a common nomenclature for services provided.

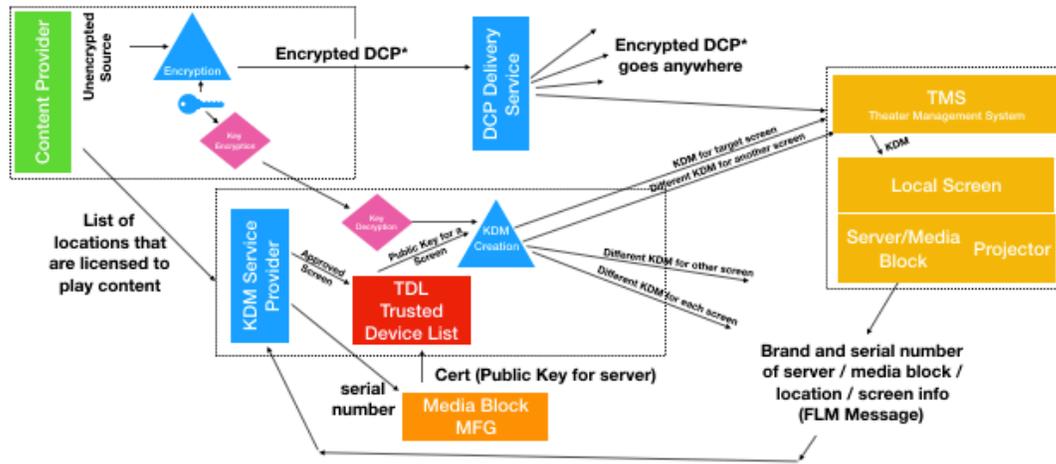
A proposed presentation was shown that included suggested

**ISDCF / NATO
Guide to Trusted Device List (TDL)
and Facility List Message (FLM)
Services for Exhibition**

nomenclature.

The basic digital cinema content security overview was shown as how we are planning to set the stage for the FLM discussion:

Basic Digital Cinema Content Security



The key nomenclature proposed is:

- **Master NOC FLM Server** (Network Operation Center) connection to each TMS and distribution of current status via FLMx (Cinemark and other majors)
- **Aggregating FLM Service** - connection to each TMS and distribution of current status via FLMx with manual portal for equipment updates.
- **Direct TMS FLM Server** - direct communication via FLMx of current status
- **Manual FLM Aggregation** - Log-on to update info at center location

The group was asked if this covered the “universe” and would be useful for the industry. Minor feedback - no negative feedback.

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TDL and Blockchain

Don Eklund, CTO Sony Pictures, presented a concept for a TDL based on blockchain technologies.

There are a few reasons this is being explored:

1. Mysterious piracy - camcorder content that does not have a watermark - and there is a suspicion it is due to projectors that have been authorized to playback and should not be authorized.
2. Consolidation of TDL's and access of the consensus TDL to all KDM generating facilities
3. Decentralized deployment
4. Timely, distributed update

Some feel that the TDL is not "trusted." There is duplication of devices, devices that are not where we think they should be located. Sony Pictures believes that blockchain technologies will help solve this problem.

A description of the procedures for adding devices and registering by exhibitors was given. This included a procedure of sending a projector a very small, targeted DCP with a QR code and a specific KDM sent to the projector. The exhibitor operator would use a smart-phone app to take a picture/video and use the location of the phone to register the projector/media block to a particular location.

The result would be a global TDL that is distributed and hold history of all devices.

Don described a situation that the new TDL would hold more information that might include the technical characteristics of a system and if Sony believed that it didn't meet their technical requirements (i.e. HDR) that they could decide not to provide specific versions of content to that system, whereas another studio might allow it.

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The discussion that followed:

How does this help with piracy?

Illegal copies are being made without watermark. There is a theory that there is an IMB that has been compromised and the security has been breeched and is on the TDL list.

Is this a replacement and is a global TDL? Yes, this is a new TDL that might use the existing TDL as the starting point.

Describe how this works if something goes wrong and they don't get a KDM for their theater? KDM delivery is not impacted by a new TDL.

A comment was made that blockchain in this situation does not add security since the initial entry of information is not secure (such as hand entered audio configuration). The addition of location of a device and confirmation by cell phone location is the big addition using this technique.

If a projector is physically moved the location is lost. The system should tell that there are too many projectors for the number of screens. Some in the room felt it will be very hard to determine if a theater has too many systems since there are many that have spares or double systems.

For emergency equipment swaps there is a procedure for registering new devices. It will be an issue to rapidly get a screen back up and running.

There was a question about mobile phone use. Many theaters don't allow use of personal phones for business purposes and they don't have cell phones for business. Perhaps integrators can assist in registering devices.

We would expect all companies would migrate to this new TDL. At some point Sony may decide to shift all deliveries based on the new TDL.

For existing deployed devices there would not be a need to re-register those devices, they would use their existing certs in the current TDLs.

One concern was described for servicing in general and a replacement IMB in particular. One member described what might be involved in an repair...

1. Wait for new IMB (or device) to be delivered
2. The serial number needs to be captured and sent to authorizing organization
3. Special DCP needs to be generated / delivered
4. Special KDM needs to be generated / delivered
5. Projector needs to be up and running
6. Playback of DCP
7. Cell phone picture taken with special app
8. Registration completed
9. KDM can now be delivered

There may be a need for a provisional approval to allow for rapid authorization of changed equipment.

One exhibitor has a facility that doesn't have cell phone service at the theater (underground). This is being considered as well.

How complicated is this compared to the transition to SMPTE-DCP? It has taken many years to make a fairly simple transition.

Don has asked for feedback and continued discussion. Probably best way is to email Don directly. Don_Eklund@spe.sony.com

Not clear that blockchain is the right technical solution, but there are aspects of the proposal that makes sense.

If this is a dispersed control, there is a question of maintaining a call center since it is not clear who owns this. Many issues needs to be resolved prior to introduction.

If there is a desire for a reflector to discuss this via reflector, ISDCF could set up one.

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Trailer Sound Levels

It's a work in progress. Another meeting is schedule for end of February to continue to discuss.

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HDR in the Cinema World

Is there an issue to use the consumer term "HDR" when talking about images in cinema. There is also issues of pixel counting in comparison to consumer devices.

Sony has been demonstrating sporting events, esports as well as theatrical content on a screen that is essentially the specs that DCI calls out for HDR. There was a desire to use the term HDR.

One suggestion: **HDR-DC** (high dynamic range digital cinema).

Some companies market their 108nits cinema displays as HDR. Many knowledgeable consumers no longer know what HDR means. It has been diluted by marketing hype.

One definition is that HDR is a screen that can pass for “real” and not an imaging screen.

Sony will offer an invitation to ISDCF to see a movie in true HDR on the Sony lot.

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Reference sizing charts

Shorter versions are on the way...

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Attendance on next page.