ISDCF Main Meeting Notes – January 12, 2023

<u>Upcoming Meetings</u>

ISDCF Wednesday March 8, 2023 10am - 1pm-ish Harman (Northridge) plus zoom

ISDCF Wednesday May 10

Part 1: General Reporting

Housekeeping:
- Zoom meeting (provided by NATO)
- Set next meeting dates (above).
- Thank you Universal for past support of the Chairman.
- Thank you for Harman for the facility / coffee / LUNCH!!
- Thank you to Susie for breakfast sweets
- Thank you to Dean Bullock for providing general expenses and admin support.
- Meeting notes from October '2022 approved
- 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 January 12, 2023

1. **Membership Invoices 2023 New invoices will be issued following this meeting.**
2. Create a members-only section to website
3. Create an agreement between contributing companies and ISDCF
4. Create and post a budget for ISDCF
5. Member only discussion list
6. Form new subgroup to discuss server/LMS behavior with metadata (Steve Chair) Please go to [Committe Signup](#) know if you want to be a part.
7. Form new subgroup to discuss the details of impact of FIPS 130-4 on product design and testing. Please go to [Committe Signup](#) know if you want to be a part.
8. Form new subgroup for accessibility with personal devices. Please go to [Committee](#)

if you want to be a part.

9. Continue moving forward on creating new audio test content for non-perf screens.
10. Looking for volunteer to find edit list for a short StEM-2 segment. Go Committee Signup to sign up.

From last time:

11. Remaster ISDCF/DCPL still images for use on LED displays (Still desired)
12. Get ISDCF 3D48 content available on the website. Does someone have information what to look for? (Steve - Still desired)

Committee Sign up URL: https://docs.google.com/forms/d/e/1FAIpQLSfq8mAwZDy6EAm3y__SXr58brhlEAZv4HqN1pz_VvnafZS1Og/viewform?usp=pp_url

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Future of ISDCF

ISDCF needs to undergo a significant change to how we operate. In order to sustain our work, we need to become a members-only pay-to-play organization. Prior generous funding by Universal Pictures with admin support from NATO has stopped. Our budget is approximately $80K per year for support of Chairman, Technical support for website and registries and funding for meetings.

A brief presentation was given on the past activities of ISDCF and the rules for going forward. The presentation slides are attached to these meeting minutes. The ISDCF/InterSociety Board has implemented a plan: The March 8 meeting will be the last meeting under the old rules. The new plan is modeled after the IMF Users Group, a HPA (Hollywood Professional Association) users group.

- Pay to Play
- $4K/year for companies with revenue over $5M
- $100 per individual if your company is under $5M revenue
- Participation in meetings to be only those who are members.
- Current reflector to remain, but only for announcements (interactions disabled)
- New discussion list exclusive to paid members
- Website will have members-only section for meeting notes, documents in process

- Invoices will be issued, March 8 meeting open to all. Following meetings will be under new rules.

Request to include the what-we-have-done sheet as part of invoice. There was also a request for an agreement as part of invoice.

Do we limit participation in meetings to those who have paid? Yes
Will the discussion list remain open? Yes, but only for announcements
Will the website remain open? Parts. Some parts will be members-only

Assuming we receive sufficient funding by March 8, meetings will continue. In the event of insufficient funding, ISDCF meetings will be paused.

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AVATAR The Way Of Water - Technical Results

Avatar 2 - The Way of Water was released late December. There were many versions for different light levels in 2D & 3D. There were 24 frames/second and 48 frames / second. There were flat and scope versions and 2K/4K resolutions. There were MANY different image versions and HUGE number of language versions. The logistics of making and distributing all the versions was a monumental task.

Theaters were challenged on making sure they selected the correct version for their screen. The naming convention was front and center in figuring out what to play in which theater.

A question was raised: "wouldn't it be better for long-term success of 3D if there was a push for only brighter presentations and not play 3D when a system is not capable of a good presentation?" No clear answer since that seems to be a studio/ creative choice not one for the technology industry.

Generally, things went well. The number of versions was a BIG challenge, but THANK YOU to Disney for providing best picture for native scope/native flat screens.

A question on which light level version should be chosen for a particular screen. Comments were made that providing test content mastered at different light levels

was not very good to determine in the field which master to use. The only effective way was to measure the screen luminance (with 3D glasses) and then select the master that matched this measurement.

It was pointed out that most exhibition sites do not have light meters. Also a comment was that light meters need to be calibrated often (can be off by 20%) and it is expensive to maintain light meters.

While we have metadata/naming convention indicating the mastering light level we don't have standards in servers for the server to record the characteristics of it's screen. This would help for automatic selection of version to play in these situations. (Push back: the servers don't use the metadata at this time.) The projector "knows" it's characteristics and could share with a server. A standardized way to provide this data could be a project.

There was a question on how the different aspect ratios were created. Sperling shared a image of one frame showing one selection of frame sizes. Was there a filmmaker preferred version? (Answer: No.)
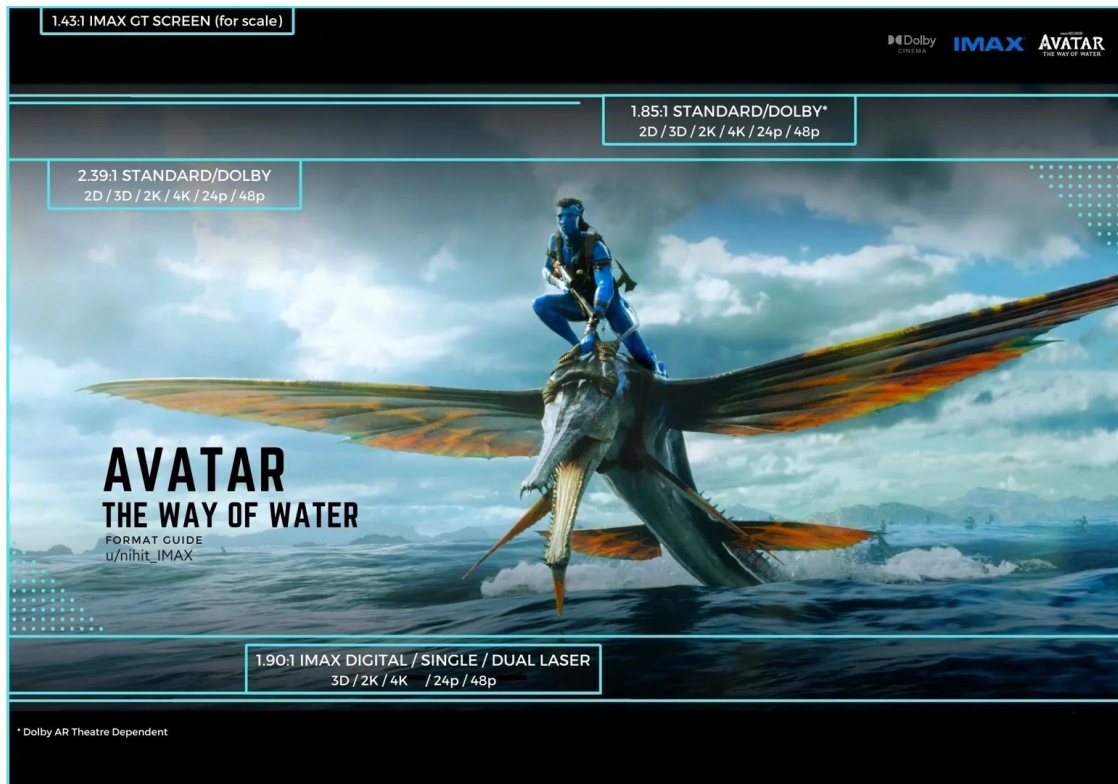
The discussion mainly went to what could be done for the next release.

The biggest request was for more test content prior to release. Trailers with the same specs as the release would have been really helpful. The pendulum was good, but not well enough described on what to look for (and how to fix it).

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Automatic reading of Metadata

How do we encourage servers/library management systems to read the metadata and rely less on the naming convention. 429-16 shows all the metadata in the CPL.

An example of Avatar CPL metadata was shown:

```
   <id>urn:uuid:1aa3ed5e-cdb0-4e0d-b021-75e5549aa0bd</id>
    <LabelText>AVATAR: THE WAY OF WATER</LabelText>
  </cpl-meta:ContentVersion>
 </cpl-meta:AlternateContentVersionList>
 <cpl-meta:Luminance units="foot-lambert">14</cpl-meta:Luminance>
 <cpl-meta:MainSoundConfiguration>71/L,R,C,LFE,Lss,Rss,HI,VIN,-,-,Lrs,Rrs,DBOX,FSKSync,-,-</cpl-meta:MainSoundConfiguration>
 <cpl-meta:MainSoundSampleRate>48000 1</cpl-meta:MainSoundSampleRate>
▼<cpl-meta:MainPictureStoredArea>
   <cpl-meta:Width>3996</cpl-meta:Width>
   <cpl-meta:Height>2160</cpl-meta:Height>
 </cpl-meta:MainPictureStoredArea>
▼<cpl-meta:MainPictureActiveArea>
   <cpl-meta:Width>3996</cpl-meta:Width>
   <cpl-meta:Height>2160</cpl-meta:Height>
 </cpl-meta:MainPictureActiveArea>
```

What would customers like to see with the use of the metadata in the theater?

Checkbox to allow automatic selection (or not)

Desire to also use metadata to make decisions for delivery.

Should we form subgroup to discuss desire/requests for server behavior. Yes.
Please go to [Committe Signup](#) know if you want to be a part.

Volunteers: Dean Bullock, Kirk Griffin, Mark Latimer, Chevy, Patrick Artiaga, Trevor Endo, Kevin Draper, Jesus Alvarado, Andre Lopes, Tim Village, Steve LLamb (chair)

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FIPS 140-3 requirements

Does 140-3 mandate retesting after software updates? DCI did try to minimize the impact of the mandate (that was a requirement after about October 2022). A red line of the changes to the DCI specification is posted to the DCI website.

It is not fully clear when a system needs to be re-tested. We need to have a clear understanding of the real impact.

Does a software update require a hardware recertification? (This was the beginning of the discussion.) What are the real impacts of the new FIPS requirements? It is time for an open discussion to resolve misunderstandings of these requirements. DCI has tried to be inclusive in the writing of the specifications.

Should a software update to a IMB require a new testing? Seems like it should. It seems that there are software updates at all the time. Probably every few months. So how does this impact the reliability/security? Something that should be discussed.

Comment: studio representatives make statements about how the impact of this change was considered and minimized. Not everyone agreed and felt there might need to be more clarification and understanding of the issues. Suggestion to form a sub-group to discuss this in more detail. Would individuals from studios participate? Probably.

Committee Membership: Dean, CJ - and others? I didn't get the list from hands raised in the room. Please go to [Committe Signup](#) know if you want to be a part.

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Naming Convention

The Naming Convention was heavily used as part of Avatar release. MANY more managers now now how to read the odd details! A suggestion was made to sell a wall chart to make some money for ISDCF! (Anyone interested in making that happen?)

We continue to get requests to fix issues in language, facility, studio, etc. Looks like it being used.

We have implemented a URL checker (google safe list) for the URLs posted as part of Facility/Studio registration.

IAB is now preferred marking for immersive audio bitstream - ATMOS is now considered legacy.

InterSociety is now hosted by ISDCF, but the intersociety.org does not yet point to the right place.

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Accessibility

The discussion focused on the use of personal smart devices in the theater.

This has become an issue in Brazil where the government has mandated sign language in theaters. This has taken a few turns, but the current situation is that personal smart devices are being used for accessibility in Brazil as well as theater provided solutions.

The landscape for the use of smart devices has changed in the past 15 years, the question is raised if ISDCF should conduct a project to see what the requirements would be for the use of smart devices in theater and if there are any standards needed in the digital cinema space to enable proper use of these devices. Things are moving forward for personal devices - the real question is do we want to have control or let the ecosystem move forward without standards.

Patrons prefer to use their own devices and not use the ones provided by the theater. If patrons are not allowed to use their phones in theaters, will they not want to come to theaters? We need to plan for the future.

The goal might be to find solutions that are server based and/or cloud based. The group, at this point, has a preference for server based. This might be for both smart phones and augmented reality glasses.

First issue is the current digital cinema spec does not have sufficient number of audio and subtitle tracks.

Things to be considered:
- Is this a new "individualized main sound" and is this a chance to have "individualized video"
- The goal is to delivery aux data as part of the CPL delivery package (or not)
- How to prevent side illumination that would distract nearby patrons. (In music concerts they provide holders for cell phones.) Other solutions use privacy screens on the front of the device.
- How to prevent use of camera for piracy
- Not cloud based?
- No connection to open internet?
- Provide many (10+) spoken languages
- Provide many (10+) captions
- Provide video track (sign language)
- (Your requirement here.)

Three conversations: one to discuss how to deliver the content to the devices (CPL/Cloud); two: to discuss the nature of the devices themselves and suitability for use in theater; three: the protocol between the booth and the device (if needed).

Please go to [Committe Signup](#) know if you want to be a part.

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[Lunch Break]
Quick discussion about next meeting: should we start earlier so we can end before lunch? No, let's start at normal 10am start time (traffic is better) and we will go to end and lunch after the meeting on your own.

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ISDCF Immersive Audio / Updated Test Package

The subcommittee that is working on identifying new audio test content that may help in setting up the sound systems for non-perf screens (LED and other). A proposed play list was shown and work has started. (A reduced size version is below.) Please go to [Committe Signup](#) know if you want to be a part.

Test Content Timeline	Image Content		7.1 content		C, L, R, Lrs, Rrs, Lss, Rss, SW	
Segment Number	Run Time (secon	Audio Channel	Audio Content (If in quotes, it is spoken.)	Text / Image on screen Screen	Additional Text on Screen	
1	13	C	spoken "The following audio test content is open domain and may be used for any application. It's goal is to evaluate theater audio installations. Visit ISDCF.com/audiotest for more information." (Female Voice)	ISDCF isdcf.com/audiotest on screen		
2	3	C	"Center" (Male Voice)	Center Front Channel	The sound should be clear / crisp and full tonal range. It should appear to come from the appropriate location shown on the screen.	
3	3	C	"Center" (Female Voice)			
4	3	L	"Left" (Male Voice)	Left Front Channel		
5	3	L	"Left" (Female Voice)			
6	3	R	"Right" (Male Voice)	Right Front Channel		
7	3	R	"Right" (Female Voice)			
8	3	Lss	"Left Side Surround" (Male Voice)	Left Side Surround		
9	3	Lss	"Left Side Surround" (Female Voice)			
10	3	Rss	"Right Side Surround" (Male Voice)	Right Side Surround		
11	3	Rss	"Right Side Surround" (Female Voice)			
12	3	Lrs	"Left Rear Surround" (Male Voice)	Left Rear Surround		
13	3	Lrs	"Left Rear Surround" (Female Voice)			
14	3	Rrs	"Right Rear Surround" (Male Voice)	Right Rear Surround		
15	3	Rrs	"Right Rear Surround" (Female Voice)			
16	3	SW	"Subwoofer" (Artifical voice at low frequency)	Subwoofer		
17	4	C	Human hand claps (2 - 2 second separation)	Center Front	The clap and gunshot should be localized and not have "echo" around the room	
18	4	C	Mid volume gunshot (2 - 2 second separation)			
19	4	Lss	Human hand clap (2 - 2 second separation)	Left Side Surround		
20	4	Lss	Mid volume gunshot (2 - 2 second separation)			
21	4	Rss	Human hand clap (2 - 2 second separation)	Right Side Surround		
22	4	Rss	Mid volume gunshot (2 - 2 second separation)			
23	4	Lrs	Human hand clap (2 - 2 second separation)	Left Rear Surround		
24	4	Lrs	Mid volume gunshot (2 - 2 second separation)			
25	4	Rrs	Human hand clap (2 - 2 second separation)	Right Rear Surround		
26	4	Rrs	Mid volume gunshot (2 - 2 second separation)			
27	12	C>R>Rss>Rrs>Lrs>Lss>L>C	"This is a walk around the room first voices then a white noise sound" It should be clear and crisp at all times with the same tonal range at all times." (Female Voice)	Identify the sound source on screen as it moves	The sound should be clear / crisp and full tonal range. It should appear to come from the appropriate location on the screen.	
28	12	C>R>Rss>Rrs>Lrs>Lss>L>C	"This is a walk around the room in a different voice. A white noise sound will follow. It should be clear and crisp at all times with the same tonal range at all times." (Male Voice)			
29	12	C>R>Rss>Rrs>Lrs>Lss>L>C	white noise			
30	10	C	"This is again the Center channel. This longer segment allows you to move around the room to hear the location from different positions within the room" (Female Voice)	Center Front Channel. Move around the room.		
			"This is again the Center channel. This longer			

Work will continue.

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SMPTE update

27C is the new 21DC (combination of 21DC, 25css, 20F)

New project for Exhibition Display Study Group - just opened. Liaisons planned. Purpose is to see what needs standards to be addressed / changed in the current standards. A report is planned and should be public.

SMPTE 429-20 MXF constraints. Soon to be published.

Currently looking at all documents in the old 21DC to make sure they are not referencing old and out of date documents.

428-22 dummy subtitles in process. In FCD.

Engineering report for the list of all documents needed for digital cinema. https://5253154.fs1.hubspotusercontent-na1.net/hubfs/5253154/SMPTE-ER-DigitalCinemaOverviewDocumentSuties.pdf was published.

TC36 close to publishing a 3D light level and uniformity.

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Response for Call for Proposal

When content is delivered and a manager has a problem with the DCP/KDM, how do you contact with the distributor of the content/keys? It is not feasible to put in the asset map or the CPL. It needs to be an out-of-band solution. (This was discussed last meeting.)

Example: The KDM does not work with "my" machine, who do I call to get it fixed?

One possibility is that DCDC might be able to publish information as part of their distribution. Still in process.

Shouldn't we host a registry that contains this information? The problem is that the person that needs the information does not know how to find/get it. It's a procedural issue.

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Updated Test Package

Still on the list.

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The Cinema Foundation

The ICTA LA Seminar series was jointly sponsored by ICTA and The Cinema Foundation. Still looking for a better elevator pitch.

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EDCF

Convention scheduled for February 7/8 in Nuremberg.

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DCI Updates

Nothing to report.

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Shorter StEM-2 Content

Call for help. We need someone to view the openly available StEM-2 content (approximately 10 minutes) to find edit points to maintain the necessary HDR/Color/ texture test segments, but create a 2-3 minute version that can be used for future display testing. They should contact those (probably JZ/Wendy would be point people) that designed the StEM-2 content to understand the goals of each scene to make sure we capture all that was designed into the content.

When a cut list is identified, we think one of our members would be willing to create the DCP of the new shorter StEM-2 content. Please go to [Committe Signup](#) know if you want to volunteer.

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Trailers in HDR1

Pixar has at least one trailer mastered in HDR1 that might be available to the community. Contact Mike Radford if you are interested.

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Review of Action Items from last meeting.

Action Items from October 4, 2022

1. **Membership Invoices 2022.** Join Inter-Society! https://isdcf.com $500 per company per year, $100 individual membership.
2. Add HDR1 as a content type modifier to the naming convention for DCI's HDR specification. Two submissions to the GitHub registry for naming convention and CPL metadata - Disney will make the request. - done
3. Call for Proposal to address "who do you call when something goes wrong with content/delivery/keys"? - some responses - Discussion continues
4. Consider removing the email and URL from the naming convention registry (at least

outside facing). Send request to reflector to see if anyone uses it or would care. Done
From last time:

5. Contact ASC to help created a short StEM-2 segment for testing. - Discussion / continues
6. Contact sources for audio test content for LED wall sound testing (Still desired, action to form subcommittee) - underway
7. Remaster ISDCF/DCPL still images for use on LED displays (Still desired)
8. Create a HDR1 trailer for LightYear (Pixar - Still desired) It is available!
9. Get ISDCF 3D48 content available on the website with descriptive information. (Steve - Still desired)

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Attendance on next last page.

The Future of ISDCF

Transition to a sustainable model

ISDCF has made significant contributions to Industry

Created test content (all organized by ISDCF, donations by member companies):
- Global SMPTE-DCP (SMPTE DCP Bv2.0 and Bv2.1)
- IAB (and profile definition)
- High Frame Rate (HFR) Content
- Subtitles/Captions
- Framing Charts
- Brightness (including IntraFrame Contrast Ratio target and test methodology)

Naming Convention (used globally):
- Discussion, Design, and Maintenance
- Human & Machine Readable
- Language / Territory / Rating Registry
- Studio / Facility Code Registry
- Metadata Extension Registry

SMPTE Documents first developed in ISDCF:
- SMPTE RDD52 - Constraints for SMPTE-DCP (Bv2.1)
- SMPTE RDD57- IAB Profile 1
- SMPTE ST 430-1 - KDM
- SMPTE ST 429-16 - CPL Additional Metadata
- SMPTE ST 429-9 - AssetMap

Best Practices, used globally:
- Hard Drive File Formats and Delivery
- KDM Formulations
- Audio Channel Layout Mapping
- Closed Caption Authoring
- Other docs here - https://www.isdcf.com/site/technical-docs/

Industry Projects, sample of topics:
- KDM Formulations
- Transition to SMPTE-DCP
- Mixed SMPTE/Interop Shows
- Mixed SMPTE/IOP Hard Drives
- Transition KDM to DCI mode for Content Authenticator
- TKR - Theater Key Retrieval
- On-Screen subtitling
  - 2D positioning and rendering
  - 3D Z-positioning
- Closed Caption and Subtitle Best Practices
- Restricted set of IAB profile
- Mixed Frame Rates
- High Frame Rate
- 3D Brightness Levels
- Audio Channel Mapping
- Markers in DCP
- Trailer audio levels in active exhibition theaters
- Ingest Behavior
- Sign Language video specification
- In-field exhibition theater testing

Future Projects:
- Digital Cinema Picture Level
- Accessibility for international requirements
- Next generation architecture and software solutions for servers
- Non-DCI content

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ISDCF History

17 years of work to the benefit of the community

Operating expenses (approx. $1M so far) have been allocated unevenly

    Universal Pictures supported the chair

    A few made made significant in-kind contributions

        NATO / Deluxe / Dolby / WB / CineCert / Others

ISDCF needs to be self sufficient

    Cost per year approximately $80K

    Would fund: Chairperson, Technical support for web services, meeting costs

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Proposal: Transition to member-funded organization

- Pay to Play
- $4K/year for companies with revenue over $5M
- $100 per individual if your company is under $5M revenue
- Current reflector to remain, but only for announcements (interactions disabled)
- New discussion list exclusive to paid members
- Website will have members-only section for meeting notes, documents in process
- Invoices will be issued after this meeting, March 8 meeting open to all. Following meetings will be under new rules.

4

Questions

Do we limit participation in meetings to those who have paid? Yes

Will the discussion list remain open? Yes, but only for announcements

Will the website remain open? Parts. Some parts will be members-only

If we don't get enough funding, how should we reduce work?

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Options

Maintain Naming Convention website and registry ($27K/year)

Pause ISDCF meetings until further notice

Continue to seek additional sponsors

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