Expected outcomes

Obtain TACs approval of a schedule for the release of ACES 2.0

Obtain TACs approval of a feature list for ACES 2.0

Inform the TACs of relevant work item details and discuss any specific feedback

Agenda

Overview Topics (30 mins)

- ACES 2.0 schedule

- ACES 2.0 new features list

- ASWF Discussions

Architecture TAC Topics (30 mins)

- ACES output transforms working group progress

- AMF refinements

- New LogACES project

- Github code repository and versioning restructuring

Implementation TAC Topics (30 mins)

- Logo Program updates

- LUT to LMT converter project

- Operability Testing and Plugfests

ACES

Overview Topics

ACES 2.0 Schedule

"Developer Release" in February 2024

- Developer release date falls out of our need to be in the 2025 VFX reference platform and OCIO

"User Release" tentatively schedule for fall of 2024

- User release is a public announcement of ACES 2.0 with "day in date" support across multiple major products

Critical Milestones

- Testing lock of Output Transforms on Oct 23

- Developer release candidate 1 in mid-December

- Developer release candidate 2 in (if needed) in mid-January

- Non-transform supporting tools, logo program revision, and documentation may come between developer release and user release

ACES

ACES 2.0 New Features

New output transforms (based on CIECAM16 with simplified 2022 Hellwig hue uniformity modifications)

Github repository restructure / New versioning system and transformIDs / Clearer community contribution mechanism

CLF Look Library

IDT Database (CTL and CLF)

IDT Calculator Tools

Enhanced AMF specification

New ACESlog specification

OpenEXR compression recommendations for VFX workflows

Updated TransformID specification

TransformID generator and validator

Expanded documentation

ASWF Discussions

On-going discussions between ASWF leadership and Academy leadership on ACES joining ASWF

Decision to be made based on what's in the best interest of ACES long term

Architecture TAC Topics

Output Transforms Working Group Progress

Output transform is based on Hellwig 2022 modification of CIECAM16 and engineered to robustly handle images.

Initial "small group" testing with colorists was positive.

On-going work focused on gamut mapping refinements, gamut coverage, inversion and refactoring for simplification.

Looking to lock the algorithm on Oct 23, 2023 for wider testing.

AMF Refinements

Fixed bug where there was no way to specify where a CDL colorCorrectionRef is located

Added support for "applied" attribute usage with Output Transforms

- Original use case presumed AMF would always be used with scene referred data, so an output transform would always need to be applied

- Adding the attribute to the AMF output transform tag allows for AMF to serve as a "receipt" showing how a deliverable was created.

Output transforms made optional to avoid confusion in some workflows (e.g. VFX pulls)

"Working Location" tag added to specify the location where pixels are intended to be modified

Plan to move AMF code to it's own repository (currently in aces-dev)

New ACESlog Project

The problem :

- Modern cameras have more dynamic range than fits in the 0 to 1.0 (floating point) range of ACEScc and ACEScct

- When ACEScc and ACEScct are sent down a wire, values below 0 and above 1.0 are clipped

Project proposal :

- Determine a new log format that encodes greater dynamic range between 0 and 1.0

- Deprecate the usage of ACEScc and ACEScct in favor of the new ACESlog format

Repository and Versioning Revisions

ACES System Components

Transforms

- Github: aces-dev
  - formats/
  - images/
  - transforms/
    - ctl/
      - csc/
      - idt
      - lib/
      - lmt/
      - odt/
      - outTranform/
      - rrt/
      - utilities/

Formats

- AMF
- CLF

Documentation

- docs.acescentral.com
- oscars.org
- Discourse forum
- www.acescentral.com
- "knowledge base"

Logo Program

- Program Description and Qualification criteria
- Table highlighting supported features*

Reference Images

- Readme
- Dropbox files
- Script for recreating*

Tools

- IDT Calculator
- IDT Calculator - Prosumer Camera
- CTL & ctlrender
- LUT to LMT Converter*
- TransformID Checker*

Transforms

Current:

ctl/

- csc/

- idt/vendorSupplied

- lib/

- lmt/

- odt/

- outputTransform/

- rrt/

- utilities/

Proposed:

aces-core-transforms

- tagged with ACES system version

aces-output-transforms

- academy-supplied & community-supplied

aces-csc-transforms

- vendor-supplied & community-supplied

aces-look-transforms

- academy-supplied & community-supplied

Versioning

ACES system version - i.e. 2.0

- What warrants an increment of the major and/or minor version number?

- Regularly scheduled updates or increment only when a mass of changes demand it?

- If regular updates, how often?

Individual transforms are versioned via `vTransformVersionNumber` token of TransformID string

TransformID

Conform all TransformIDs to consistent format:

`URN:Type.NameSpace.Name.aMajorVersionNumber.vTransformVersionNumber`

Exact tokens that capture all possible parameters TBD

- examples: peak luminance, encoding primaries, limiting primaries, EOTF

Provide guidance and examples to empower users to create their own for custom transforms

Create simple validator tool to assist in creating & validating TransformIDs

Look Transforms

The few examples LMTs currently provided should be updated and split into a separate Look Transform repository, to free up for more rapid additions and allow for user contributions

Add a user-facing webpage or other for users to browse for and download from a "look library" for ACES

Create a tool to help users convert existing LUTs from other workflows into ACES Looks

Reference Images

Pre-rendered frames through each of transform currently at the current head of the dev branch on 'aces-dev'

Create a robust script that can cascade through a directory of transforms and recreate the rendered frames locally or be used with a different version of ACES.

Requested Action

Won't fully solve everything here today

TAC members are encouraged to consider the changes proposed

Please share any other previous troubles and/or ideas for improvement

- What presentation and/or tools can make it clearer for users & implementors?

- Is system versioning clear?

- What issues have you encountered with using TransformIDs?

Follow-ups with individuals and/or 1 to 2 working meetings to hash out specifics

Implementation TAC Topics

Logo Program Updates

Program Goals

- Encourage consistent, high quality ACES support in products and services

- Encourage Partners to work together on interoperability of inputs and outputs

- Communicate to all users that products and services with ACES logo can be reliably used in workflows

- Educate about ACES and promote ACES as a preferred or at least reliable choice for color managed workflows

Logo Program Updates

Task Force Recommendations (High-Level)

- Product Partner Program

  - Clean up issue with categories for products, in favor of ACES features that could/should be supported.

  - Increase transparency by creating and posting a chart of products in program and what ACES features they actually support

  - Revise logo to differentiate between existing and new qualified participants ("Supports ACES 2" or "ACES 2 ready" or similar)

  - Increase education and training.

Logo Program Updates

Task Force Recommendations (High-Level)

- Service Provider Program

  - Develop and launch a program to feature "ACES Recognized Service Providers" to include facilities and practitioners

  - Must demonstrate expertise by recognized training, education, experience and/or at least two projects produced using ACES tools and workflows.

  - Increase education and training.

Logo Program Updates

Task Force Recommendations (High-Level)

- ACES Show Credits (lists and end credit 'bugs')

  - Formalize ACES Show definition so it's more consistent: e.g. ACES workflows and tools were used on the show from the first-time images and sound sequences were brought together and processed (generally considered postproduction.)

  - Create web interface to facilitate and track submissions for listings as well as use of Logo in end credits

  - Create a specialized logo "Produced using ACES"

Logo Program Updates

Next Steps

• Designate a drafting group to create draft program documents that turn Task Force recommendations into something the Task Force and community can review (already started)

• Identify trainers (globally) who could be part of the increased education and training recommendations (already started)

• Discuss internal (Academy) issues, if any about changing the ACES logo for different purposes

• Communicate with current Product Partners what they will need to do to continue to participate in the revised program (already started)

• Share with Task Force and TAC as appropriate

LUT to LMT Converter Project

Problem :

- People want to use their existing looks with ACES

- This is complex as existing looks are often tied to a specific output device

Project proposal :

- Find a least common denominator solution, even it if comes with caveats

- Create a tool that converts existing LUTs to ACES Looks in CLF format

- Recommendations for implementation?

Operability Testing and Plugfests

Utilize the time between the Developer and User Release of ACES 2.0 to maximize impact of the release

- Conduct Operability Testing and Plugfests

  - Ensure that majority of Products begin their implementations and identify any issues with their development or with interoperability

- Encourage Product Partners and other implementers to create instructional materials to accompany their User Release

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