ACESNext...The Road to ACES 2.0

SIGGRAPH Birds of a Feather
July 30, 2019
Agenda

- Welcome (2:00 pm – 2:05 pm)
- Progress on ACES Development (2:05 pm – 2:10 pm)
- CLF VWG Update (2:10 pm – 2:15 pm)
- ACESclip VWG Update (2:15 pm – 2:20 pm)
- ACES 1.2 and Discussion (2:20 pm – 2:30 pm)
- Discussion of Roadmap to ACES 2.0 (2:30 pm – 2:40 pm)
- Call to Action! (2:40 pm – 2:45 pm)
- Next Steps and Discussion (2:45 pm – 2:50 pm)
Welcome

We’re here to:

• Update you on progress
• Confirm your needs
• Ask for your participation and help – we want this to be a discussion!
Welcome

A few important things to mention...we’re

• making real progress on ACES development
• coordinating with the OCIO Group
• operating in an “open source” style and thanks to ASWF for hosting this Open Source Summit
• These slides will be posted after the presentation
Progress on ACES Development
Progress on ACES - Governance

- We have a process
- Based on ASWF/Linux Foundation principles
- ACES 1.2 is proof of concept
- New Groups to announce
Progress on ACES - New Groups to Announce

- **Implementation VWGs**
  - CLF - Doug Walker
  - ACESclip - Dan Tatut

- **Architecture VWGs in Progress**
  - IDT Group – Chair TBD
  - Gamut Study Group – Chair TBD
  - Compression - J Schulte

- **Other Groups? Make a Proposal!**
CLF VWG Update
What is the Common LUT Format

- XML based file format representing 1D LUTs, 3x1D LUTs, 3D LUTs, Matrices, ASC CDLs, ...
- Covers most (if not all) existing LUT file representation types
- Supports Integer, Float, half-Float number encoding
- Node base for serializing any of the above transform, in any order, with as many nodes you’d like

What the Common LUT Format is not

- A specific ACES transforms file format
CLF Virtual Working Group

Results of Spec Review Group

• Add `<Exponent>` Process Node
  • simple gamma, power w/ linear (sRGB, L*, etc.)
• Add `<Log>` Process Node
  • basic log, Cineon style, log w/ linear (camera logs, ACEScct)
• Other minor changes – remove `IndexMap > 2`, restructure, clarify

Tasks of Spec Generation Group

• Rewrite ”specification” as a specification, incorporating new nodes
ACESclip Update
ACESclip

Working Groups Status

1. Requirements review and revision group – Complete
2. Specification generation group – Underway
3. Implementation tools group – Upcoming (Chair: Dan Tatut)
The name has changed ...

ACESclip

is now

ACES Metadata File
New: ACES Metadata File – Old: ACESclip

ACESclip is now ACES Metadata File (AMF or .amf)

• The name was causing confusion.
  • It’s metadata, not a sequence wrapper.
• Name change was:
  • recommended by the requirements review and revision group
  • debated by the Architecture TAC
  • accepted by ACES Leadership
• Details will be formally documented in ACES 1.2, with the release of the AMF specification
ACES Metadata File Update

• Spec Requirements Group
  • Revisited requirements of ACES viewing pipeline metadata file
    • Essential for VFX pulls
    • Debated core functionality required, comparing existing spec to a sparse strawman
    • Discussed barriers to adoption

• Tasks for Spec Generation Group
  • Generating new specification based on revised requirements
  • Current draft XML schema and examples can be found at: http://github.com/aforsythe/amf
Goals and Process for Implementation Virtual Working Groups
Goals and Process for Implementation Virtual Working Groups

- Implement functions and procedures developed by the Architecture VWGs
- Give feedback to the Architecture VWGs
- Soft Start = While Implementation VWGs expect completed documentation from the Architecture VWGs, the Implementation VWGs will be able to start working on a project before the work of the Architecture group finishes
Goals and Process for Implementation Virtual Working Groups

- Members of an Implementation VWG may be ACES Product Partners, ACES implementers and users
- ACES reference images will be exchanged between implementations to validate correctness
ACES 1.2 and Discussion
ACES version 1.2

• Release – Fall 2019

• New Features
  • New CLF specification
  • New ACES Metadata File specification with versioning support
  • Non-ACES grading and custom LMT application space support (via ACES Metadata File)

• Discussion
Discussion of Roadmap to ACES 2.0
ACES 2.0 Features Under Discussion

• New Features
  • Simplified RRT
  • Parametric Output Transform
  • Parametric Dim Surround Support
  • Production-ready reference implementation
  • Interchangeable Programmatic LMT format
  • Interchangeable IDT format
  • Improved End-User Documentation

Major Fixes
  • Gamut management
## Top 10 Listening Tour Request

<table>
<thead>
<tr>
<th>Rank</th>
<th>Issue</th>
<th>Release</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>RRT (invertible and separate the look)</td>
<td>2.0</td>
</tr>
<tr>
<td>2</td>
<td>ACESclip spec and implementation</td>
<td>1.2</td>
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<tr>
<td>3</td>
<td>LMT exchange and archive format</td>
<td>2.0</td>
</tr>
<tr>
<td>4</td>
<td>Fix negative values issues (gamut problems)</td>
<td>2.0</td>
</tr>
<tr>
<td>5</td>
<td>Realtime implementations</td>
<td>2.0</td>
</tr>
<tr>
<td>6</td>
<td>Custom IDTs</td>
<td>2.0</td>
</tr>
<tr>
<td>7</td>
<td>Parametric ODTs</td>
<td>2.0</td>
</tr>
<tr>
<td>8</td>
<td>Support for custom working spaces</td>
<td>1.2</td>
</tr>
<tr>
<td>9</td>
<td>Revisit AP0 and AP1</td>
<td>2.0</td>
</tr>
<tr>
<td>10</td>
<td>No look modifiers in RRT and ODTs</td>
<td>2.0</td>
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Progress on RAE Requests

We’ve made progress on these RAE requests and are building other requests into the plan.

Development process more open

• Published development process
• Established technical advisory committees
• Open working groups
• Public meetings
• Consistent updates
Progress on RAE Requests

Public Records
- Meeting materials, transcripts, and recordings captured for later review
- Public presentations and papers archived on Zenodo.org
- Development topic discussions on ACESCentral.com

Better integration with OCIO
- Community members tapped to help with OCIO
- 1.x ACES config development
- OCIO 2.0 to have built-in, first-class support for
- ACES (no config needed)
Progress on RAE Requests

Promote CLF adoption
- Top-to-bottom reassessment of CLF
- Updated spec to be released with ACES 1.2
- CLF implementation working group to be formed to address implementation barriers to adoption

Simplified ACESclip file format
- ACESclip (now ACES Metadata File) rearchitected from the ground up to address community feedback
Progress on RAE Requests

Broadening of ACES scope to include video games
• Greater attention given to non-cinema applications
• Inclusion of gaming “thought” leaders on TACs

Better documentation of CTL reference code, constants, development decisions, etc

On-going process
• New development process helps and new documents where applicable (e.g. TB-2018-001 : Derivation of the ACES White Point Chromaticity Coordinates)
Progress on RAE Requests - (con’t)

Discussion
Have your needs changed since RAE paper and our discussions on ‘Listening Tour’?
Release Timeline – for Discussion

- Aug 21, 2018: ACES 1.1 Release
- Sep 13, 2019: IBC 2019
- Apr 6, 2020: NAB 2020
- Sep 12, 2020: IBC 2020
- Apr 6, 2021: NAB 2021
- Today
- 2020
- ACES 1.2
- 2021
- ACES 2.0
Call to Action!
Call to Action!

- We are looking for proposals for 2.0 VWG and for people to step up to lead the new groups

- Proposal Form – https://aces.mp/wg_proposal_template_v1
Thanks!