SMART CONTENT SUMMIT 2020

LEVELING UP: REMOTE POST COLLABORATION FOR STUDIOS

Chuck Parker, CEO, Sohonet
We Connect Storytellers
500+ Media & Entertainment customers globally

20+ Years serving the Media & Entertainment Industry

20/25 2020 Golden Globe Winners are customers of Sohonet’s

17/24 2020 Oscar-Winners used Sohonet technology in their productions
The Challenge

- In the US alone, the film & entertainment industry produces an average of **700 films and 500 episodics a year** and out of the huge budgets allocated for these productions, millions of dollars are spent solely on travel.
- From pre-production to wrap, productions continue to straddle borders to take advantage of unique locations, tax-incentives and the global pool of creative talent and facilities available.
- **Travel can be unavoidable (or must be avoided).** Remote working is now a requirement not a luxury
- The rest of the content supply chain works hard to ensure content moves between apps while retaining as much metadata as possible
- WE work hard to provide an “over the shoulder” experience for your content collaboration that keeps content in original system (Baselight, Resolve, Flame, Avid, Adobe, etc)
- One less metadata step you have to manage...

Let’s take a look at how one of our solutions is helping...
What people think a remote grading session looks like.
What a remote grading session *really* looks like.
All hands on deck

Before the artist & execs arrive at each location, there are a few steps:

1. Exchange IP addresses both ends
2. Set up firewall at A end
3. Set up firewall at B end
4. Set up encoder at A end
5. Set up encoder at B end
6. Agree time for test session
7. Run a test session
8. Call firewall team(s) to check firewall rules
9. Call tech ops to check encoder & decoder settings
Then hope that between your test session & actual review session **nothing changes**
Oh...we’ve got another session with a different client tomorrow!!
So, what can we do differently
PROPER SECURITY
It is **ENCRYPTED** end to end
It has **AUDIT TRAILS**
<table>
<thead>
<tr>
<th></th>
<th>Point to Point</th>
<th>ClearView 4K</th>
<th>Time Saved</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Firewall Changes</strong></td>
<td>1 Change per end for each pair of locations</td>
<td>One time setup per location</td>
<td>1 hour to 2 weeks for each setup</td>
</tr>
<tr>
<td><strong>Session preparation</strong></td>
<td>Re-programming of source and destination for each session</td>
<td>One time config to enable receiver location</td>
<td>1 hour to 4 hours per session</td>
</tr>
<tr>
<td><strong>Session initiation</strong></td>
<td>Additional testing and enc/decoder config verification</td>
<td>One time setup then just like making a phone call</td>
<td>1 hour per session</td>
</tr>
<tr>
<td><strong>Number of receivers</strong></td>
<td>1 (point to point)</td>
<td>1 to ? (point to multipoint)</td>
<td>Session length x number of end locations + rerun times to confirm all parties are aligned</td>
</tr>
<tr>
<td><strong>Encryption</strong></td>
<td>Not supported</td>
<td>Full encryption end to end</td>
<td>-</td>
</tr>
<tr>
<td><strong>Error correction</strong></td>
<td>FEC</td>
<td>FEC</td>
<td>-</td>
</tr>
</tbody>
</table>
Introducing ClearView Pivot

Real-time, high-quality remote collaboration tool with added flexibility to pivot endpoints at the click of a button.

ClearView Pivot allows you to stream colour and frame-accurate footage in 4k HDR with 12-bit colour depth and 4:4:4 chroma sampling in real-time with ultra-low latency provided by our SMN connection. Users are then able to connect multiple endpoints from a single web interface, removing the labour and time-intensive task of setting up new firewall configurations each time and enabling multi-point review sessions.
Why Pivot?

We are offering the best quality, hassle-free and most secure real-time collaboration solution for remote screening, colour grading and finishing review and approvals on the market.

**High quality.** 4K, 12-bit, 4:4:4, High Dynamic Range with lossless J2K compression

**Hassle-free.** Each new end-point joins an integrated ecosystem with 24x7 monitoring. No ‘solution checks’ required before each VIP session. It “just works” with the click of a button every time.

**Most secure.** Pivot is the only integrated solution that has been approved by ISE in the market. It as an integrated, secure ecosystem that locks down the physical, transport and application layers which is continuously audited. By definition, a hardware-only solution creates a security risk each time a new project is established.
Simple UI and UX

- When the call is accepted, all settings from the sending system are matched in the receiving system.
- The host can invite multiple participants who can join at any time during the session without restarting the stream.
- Re-dial functionality to easily bring back up a previous session.
Brief Tech Specs

- Supports 2K, UHD, 4K video formats, up to 4:4:4 chroma & 12-bit colour depth in colour spaces REC 601, 709 & 2020
- Stream is compressed with high-quality JPEG 2000 compression
- Ultra-low latency guaranteed with SMN connectivity
- Point-to-multipoint solution
- Simple to use web-based call management app
- Fully managed service
- AES-128 End-to-End encryption with a per-session key
- Studio approved technology
- Regularly audited by industry approved third party security inspector, ISE
- 24/7 support
What can I use it for?

**Colour Grading**
Pivot is perfect for remote colour review as there is no loss in depth and clarity of colour. We are able to support up to 4:4:4 (12-bit) in your desired colour space so that, as long as your monitors are calibrated at both ends, you can ensure all your team have exactly the same experience as they would in the grading suite.

**VFX Review**
Image quality is of paramount importance when reviewing VFX shots. With high-quality JPEG 2000 compression and uncontended, high-speed bandwidth to ensure you experience minimal packet loss or jitter, even when reviewing across continents, you can ensure none of your artists' work is lost in translation.

**Audio Review & Mixing**
With 16 channels of audio, Pivot can be used for audio review and mixing. Composers, sound designers, sound editors and sound-effects artists can all use Pivot to review their work with other crew members and execs in real-time.

**Finishing Review & Approval**
At the end of Post, when VFX, colour and sound are complete, you're ready for a final sign off before finalising your DCP. Pivot provides a solution to complete the review when your execs can't all be in the same place, without compromising the quality of a single frame.
## Remote Color Grading Options

<table>
<thead>
<tr>
<th></th>
<th>4K / UHD</th>
<th>Encrypted Stream</th>
<th>CODEC</th>
<th>Update Cycle</th>
<th>24/7 SUPPORT (Managed Service)</th>
<th>Network Included</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nevion T-VIPS</strong></td>
<td>X</td>
<td>X</td>
<td>J2K</td>
<td>NONE (end of life)</td>
<td>X</td>
<td>X</td>
<td>Industry “gold standard” for 4:2:2 10-bit remote color grading over last 10 years</td>
</tr>
<tr>
<td><strong>Nevion Virtuoso</strong></td>
<td>✓</td>
<td>X</td>
<td>J2K</td>
<td>Firmware / Security Patches</td>
<td>X</td>
<td>X</td>
<td>Next generation replacement for T-VIPS, but still very broadcast focused and expensive ($60k+ per pair)</td>
</tr>
<tr>
<td><strong>StreamBox Chroma</strong></td>
<td>✓</td>
<td>✓</td>
<td>Proprietary</td>
<td>Firmware / Security Patches</td>
<td>X</td>
<td>X</td>
<td>Heavy IT support required to manage connectivity and encryption, proprietary CODEC and 9-5/M-F support model</td>
</tr>
<tr>
<td><strong>Sohonet ClearView Pivot</strong></td>
<td>✓</td>
<td>✓</td>
<td>J2K</td>
<td>Bi-weekly code drops for new features</td>
<td>✓</td>
<td>✓</td>
<td>Software solution on commodity hardware with BlackMagic Decklink 8K cards allowing for an intuitive web-based UI delivered across Sohonet backbone that can be consumed as a month-to-month service</td>
</tr>
</tbody>
</table>
Let’s keep in touch.

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