SolaByte Ex Parte Communication Summary
Meeting Date September 6, 2018

September 10, 2018

To: Ms Anna Chauvet, Mr Kevin Amer and Mr Jason Sloan
Sub: SolaByte Ex Parte Communication, DMCA Section 1201 Rulemaking Class 3
From: Keith Chatfield and Rod Brittner

Greetings Distinguished Members of the Copyright Office,

Thank you for the opportunity to meet with you in an Ex Parte Communication session. Per the Ex Parte communication rules, we are submitting this summary of what was discussed at the session. The Ex Parte session was conducted as a teleconference. Attendees representing SolaByte at this session included: Keith Chatfield, SolaByte Co-Founder and CEO, Rod Brittner, SolaByte Co-Founder and CTO, and Ken Fuhrman, SolaByte Media System Architect.

In our presentation made in April and during this Ex Parte session we messaged our intent to use the exemption to create a Secure Cloud Media Fair Use Archive Service and we made design decisions to the best of our knowledge to make the solution conform to Fair Use doctrine. If the Copyright Office believes an element of our plan does not fit within the parameters of Fair Use we would greatly appreciate hearing this information so we can make appropriate changes as needed before your decision.

Beyond Fair Use, other impressions we hope were made by our testimony include:

- We will secure the content to industry standards;
- Our solution requires the consumer to recycle their discs which forfeits their First Sale rights of the discs in exchange for making their copies available in their private cloud media locker, an exchange of rights we feel is a reasonable and fair barter;
- We have worked to create a solution that benefits both consumers and content owners;

At the session Keith Chatfield read a prepared document in FAQ format. The following is our summary of the communications made with questions and answers that came up at the session:

1. Who is SolaByte?
Ans: SolaByte is a media security technology company that designed a system to automate and control the process of creating private cloud media libraries of video content stored on optical discs. The system captures and records a single license for each DVD or Blu-ray disc. To ensure only 1 license is extracted from each optical disc, we invented the means to digitally watermark discs that have been associated with a licensing transaction so they could be identified and not reused to create multiple licenses. This technology can also be used to disable the disc to enable a “Virtual Move” of the content from the optical disc to new media. SolaByte is a former Partner Developer Licensee of the UltraViolet consortium and as media system designers, we’ve designed media server hardware and services for major technology companies like HP and Seagate Technologies.

2. Are you requesting an exemption from DMCA Section 1201 to allow the circumvention of encryption technology?

Ans: Yes, to allow SolaByte to provide a disc recycling and private cloud media service on behalf of consumers who have purchased movies and video encrypted on DVD and Blu-ray discs. The exemption is needed because it would be necessary to decrypt the encrypted files stored on the optical disc prior to re-encrypting them into a digital file used for streaming.

3. How do you plan to implement the Secured Fair Use Archive Service messaged in your testimony?

Ans: The consumer would send us their DVD's or Blu-ray disc(s) and using our website, click a button that authorizes us to destroy their disc(s) and replace them with a private cloud copy. We would use software and visual inspection to confirm the disc is a genuine, store bought disc and not a copy. We would use software to identify the movie or show on the disc, and using the exemption, decrypt the movie from the disc to make a temporary file of the content on the disc. This file would then be re-encrypted using industry approved encryption technologies that are more robust than what is currently protecting the content on the disc. After validating the functionality of the new encrypted file, the system would delete the system cache or any temporary files of the original content and we would shred the original disc. The plastic from the disc would be used for beneficial purposes such as drinking water containers, helmets, protective glasses etc. The newly created encrypted cloud copy would be stored in the owner of the original discs' private cloud storage locker. This locker would be password protected for use only by the owner of the disc and their family members. (The account holder)

A member of the copyright office posed the question if our system would be creating a few master copies that the system would use for any user that qualified for a cloud copy (For expedience we will call this a System Master) or a copy for each disc received and usable only by the account holder. For expedience we'll call this an Account Copy. Keith Chatfield responded that the system would make Account Copies that would be stored in the account holder's locker and only accessible by the account holder. Members of the Copyright Office responded that this was a change from the testimony made in April and discussion occurred about the meaning of a master copy in the April presentation. SolaByte now believes the answer that the system will make Account Copies was a miscommunication and the correct answer should have been the system will make a database of System Master copies that can be used to stream to any account holder that qualified to have a cloud copy for that content. From an end user and security perspective both models for storing and serving the copies are identical as the customer experience and all the copies for either method will be encrypted and behind our firewall. For the record and to match our previous testimony, we plan to create System Masters; however if the Copyright Office determines creating Account Masters is required for the granting of the exemption, we are happy to implement the Account Master method. The System Master method does lower overall storage and processing cost which creates the possibility for lower subscription fees to the consumer as well or a possible "Freemium", or free tier of service as well, so for a cost perspective the System Master approach has the possibility to benefit consumers.

4. Can the account holder and owner of the new cloud copy use it for commercial purposes?

Ans: No, the consumer forfeits their First Sale rights of the tangible disc when it's converted to a cloud copy. In essence the owner of the disc is giving up their First Sale rights in return for converting their disc into a cloud copy.

5. Would the new cloud copy be upgraded in quality or resolution?

Ans: No the same quality level of the original will be retained in the new cloud copy. So a DVD at standard definition level would be standard definition as a cloud copy. A Blu-ray disc sold in high definition would be a high definition cloud copy.

A question was posed by the Copyright Office about how we would handle a scratched disc that we receive and find it inoperable. Keith Chatfield responded since each disc is creating its own unique cloud copy, SolaByte would consider that disc not copyable and no cloud copy would be made.
6. What encryption technology would protect the newly created cloud copy?

Ans: We would select from the list of approved security technologies approved by studios for their content distributed by their Ultraviolet retailers. These approved encryption technologies are more robust (AES 128) than CSS, (40 bit cipher) the technology used to protect DVD's. Both CSS and AACS 2.0 used to protect UHD Blu-ray content has been hacked, and their static media and player architectures make recovery from a hack very difficult to achieve while retaining backward compatibility to the installed base of distributed DVD and Blu-ray discs. Replicated DVD and Blu-ray discs are static or read only and their media key can't be changed once released. On the other hand, cloud based streaming platforms can recover from hacks more easily because there is no static file installed base to maintain compatibility with. Healing a cloud streaming system can be accomplished through software downloads and host software upgrades. This is one reason studios prefer streaming platforms for distribution.

7. What about content from studios that are not members of the Ultraviolet consortium? Will SolaByte implement the security technologies used by non Ultraviolet retailers?

Ans: The technologies approved by studios under Ultraviolet have proven to protect content across a variety of screens and player platforms so this is more a business question than a security one. For business reasons, SolaByte may support other security technologies approved for use by studios for their non Ultraviolet retailers, if available, to create the best customer experience and broad platform support.

8. Is SolaByte planning to become an Ultraviolet Locker Access Streaming Provider if the exemption is approved?

Ans: Ultraviolet created an excellent specification and framework of approved technologies to enable secured distribution of movies and videos on the web. Most likely we would but no decision has been made at this time pending the outcome of the exemption proposal

9. Can the owner of the cloud locker create a public performance or broadcast their movies on the internet?

Ans: No, The number of simultaneous streams will be limited to what the studios have already approved for their Ultraviolet retailers and our license agreement will prohibit the publication and sharing of log-in credentials.

10. Can the consumer download a copy of their cloud copy from the cloud?

Ans: No, SolaByte is not planning to implement a download service only streaming. However; as innovators, we are studying the security challenges of this environment and with ecosystem partner

support we may want to provide a download service sometime in the future. For the absence of doubt and clarity we consider content owners part of this ecosystem.

11. Can the account holder stream their cloud copy outside the USA?

Ans: No, we will use Geo fencing technologies to prevent streaming outside the USA

12. Why not just license the content from the copyright holder?

Ans: SolaByte attempted to license content from copyright holders; however, their contract terms require significant up-front fees, pre-payments, and revenue guarantees. In aggregate these guarantees amount to several millions of dollars, a sum that makes the venture unattractive to investors. Furthermore, when considering the sheer number of copyright holders, it's impractical to license the world's video content stored on optical discs, and it should not be necessary considering the owner of the optical disc already has a Fair Use right to make their own private copy of content for free.

13. Why does the link to your technology demonstration not work as referenced in your presentation submitted into record at the hearing?

Ans: Somehow the link was changed without SolaByte's knowledge. The working link to the demonstration is https://youtu.be/VDTczaLcGVc

14. Why is the technology demonstration significant to these hearings?

Ans: The demonstration shows it's technically feasible to write a digital watermark into mass produced, "read only" optical media such as store bought DVD's, CD's or Blu-ray discs. This same technology can be used to disable the disc from playing when implemented in a device such as a Blu-ray player, computer or kiosk. While our request for exemption is limited to a manual process of mailing in and processing discs; with industry support, the technology can be used to transform a networked Blu-ray player into a virtual transporter of content stored on optical media to the cloud.

The Copyright Office asked how the discs are being delivered and we answered they are mailed in.

Copyright Office asked if the consumer could just take a picture as proof of owning the disc to get a cloud copy

Keith Chatfield answered he did not think this level of authentication was adequate because it would be too easy to commit fraud, such as taking a picture of a DVD from a library.

The Copyright Office observed in our April presentation the consumer was performing the copying and now SolaByte is performing the copying for the consumer and this was a change. There were two responses from SolaByte:

With respect to who is doing the copying, Keith Chatfield referenced the slide in the April presentation which clearly states we are providing a Secure Cloud Media Fair Use Archive Service and service can

mean copying the discs on behalf of the consumer. We added the consumer has to click a button on our website to authorize us to perform this service on their behalf

Rod Brittner then described a term from patent law called an Ultimate Embodiment and how these descriptions are used in a patent disclosure to visualize a mature state for an invention. Rod Brittner postulated the reason for the change in who implements the copying was because what we described today for the solution was an MVP or first release and the fully automated solution shown in the April presentation was more of an Ultimate Embodiment. That solution will require ecosystem partner support and since we don't develop player devices or kiosks we will need to do certain functions manually on behalf of the consumer. And, In all cases the 1201 exemption is a key enabler for any level of our solution, MVP to Ultimate Embodiment.

15. How does your proposal benefit content owners?

Ans: The security technology protecting motion picture or video stored on DVD and Blu-ray disc is easily defeated using software widely available on the internet. SolaByte would remove a large number of discs in circulation with weak or hacked security and replace the files in protected cloud lockers where the security is more robust, dynamic to respond to security threats, and less vulnerable to piracy. Furthermore, by physically destroying the discs, we eliminate the secondary market for used discs thus enabling the primary market for content sold on DVD or Blu-ray discs.

16. Why is this necessary? Why not use Disc to Digital?

Ans: Many movie titles are not included in Disc to Digital. This is most pronounced with TV shows sold on discs, (check Homeland) older movies that we're never digitized for electronic sales (Check your old Star wars DVD), and concert videos. Furthermore, the public has the Fair Use right to make copies of their purchased content for their personal use for free. The DMCA has enabled the motion picture industry to hold the consumer's Fair Use rights hostage until their retailers collect a fee to enable a digital copy. This is far removed from the law's intent to prevent piracy and it equates to no more than a media ransom. To restore their ability to make a digital copy, some consumers are buying hacking software that only creates a revenue stream for the hacking industry.

17. How is the public harmed by the current solution?

-Media Ransom: The required payment of millions of dollars of fees ($2 per disc for Disc to Digital) just to restore the consumer's Fair Use rights and liberate their content ;
-Less Movie Creation: The use of hacking software that creates millions of unprotected movie files that can make their way onto the web thereby eroding the business of creating great motion picture content. SolaByte referenced the music industry and its golden age before Napster and pirate sites decimated the industry;
-Platform Obsolescence: Their consumer's investment of movies or videos on disc becomes worthless in the future when their disc player fails or becomes obsolete like the VCR.

Copyright Office asked then is our service a free service and SolaByte answered no, but we are not charging $2 or $5 a copy like what retailers are currently charging for Disc to Digital. Keith Chatfield answered that our fees will be a low monthly subscription fee and the consumer is getting more than

just storing and streaming their movies. Their private cloud locker will be for all their content; photos, videos, movies and music.

Copyright Office asked what happens to the consumer's cloud copies if they stop paying for the service and Keith Chatfield answered they would lose access to their cloud copies but we would retain a record of their licenses so if they start to pay again we would restore them in the cloud. But as previously described, with the lower operating cost of creating System Masters over Account Masters it now would be economically feasible to retain the consumer's license records in perpetuity and that would be our intention.

18. Why is your request for an exemption in the public interest?

Ans: Beyond eliminating the harm described above, we believe strong families are a cornerstone of a strong democracy. The private movie and video library we enable with this exemption would be part of a broader solution that creates a private family media channel where family members can store and preserve their family history captured in their photos and personal videos. This private family media channel connects family members and helps them understand their heritage, virtues, and contribution to society.

This concludes the Ex Parte Communication Summary. Solabyte welcomes your follow up questions or input and we thank the Copyright Office for its consideration of our proposal.

Respectfully,

Keith Chatfield

SolaByte CEO/Co-Founder

Rod Brittner

SolaByte CTO and Co-Founder