



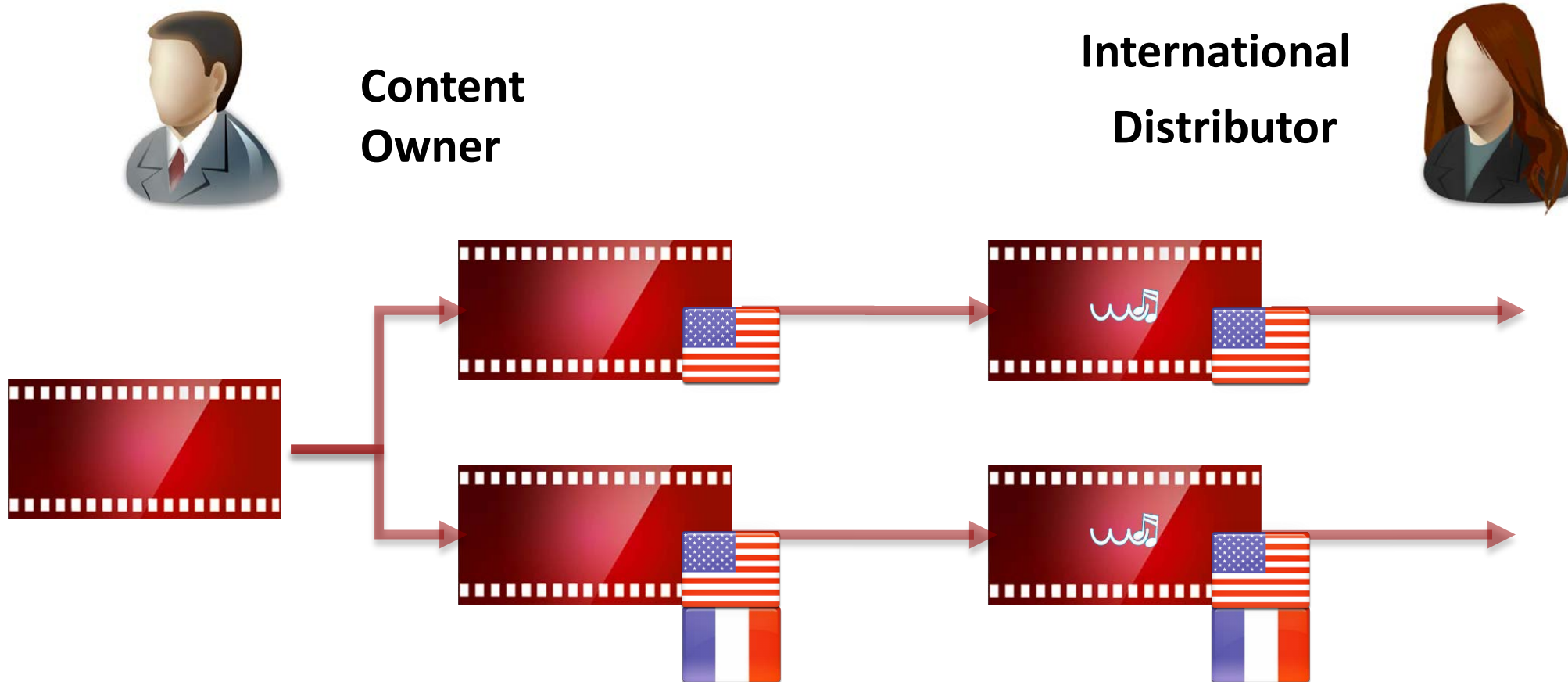
Securing IMF

DIEHL Eric (Sony Pictures Entertainment)

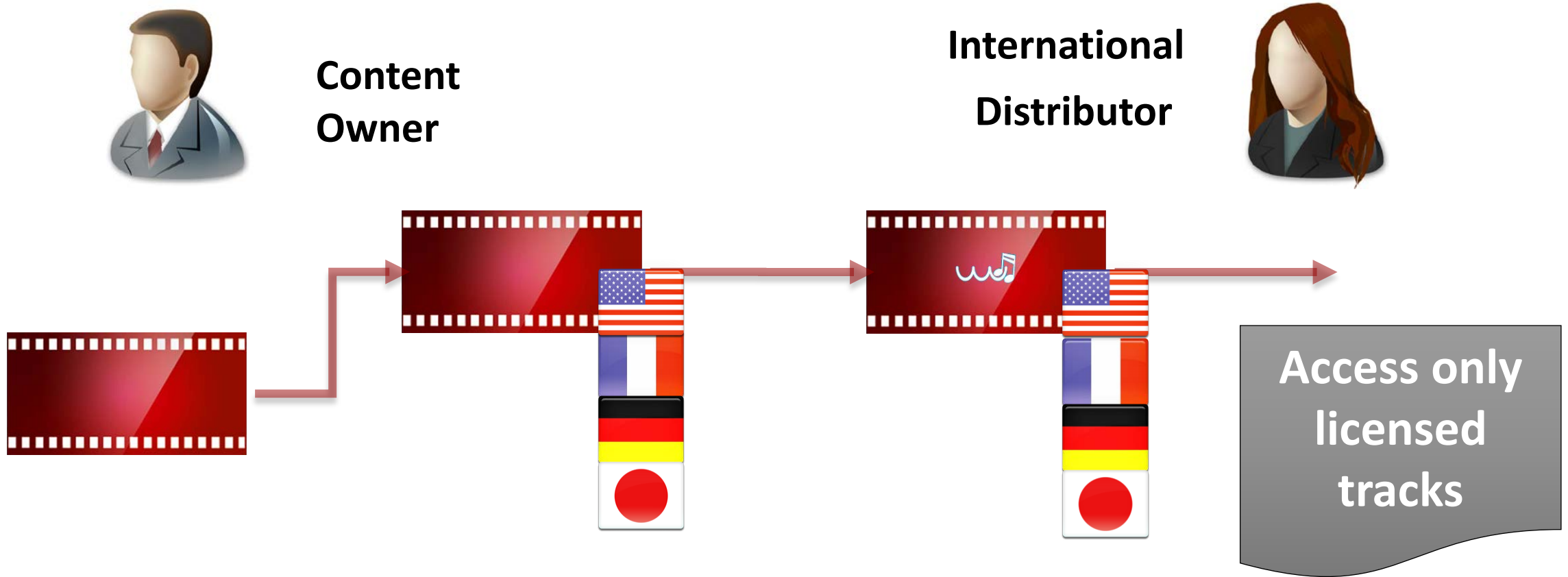


Problem

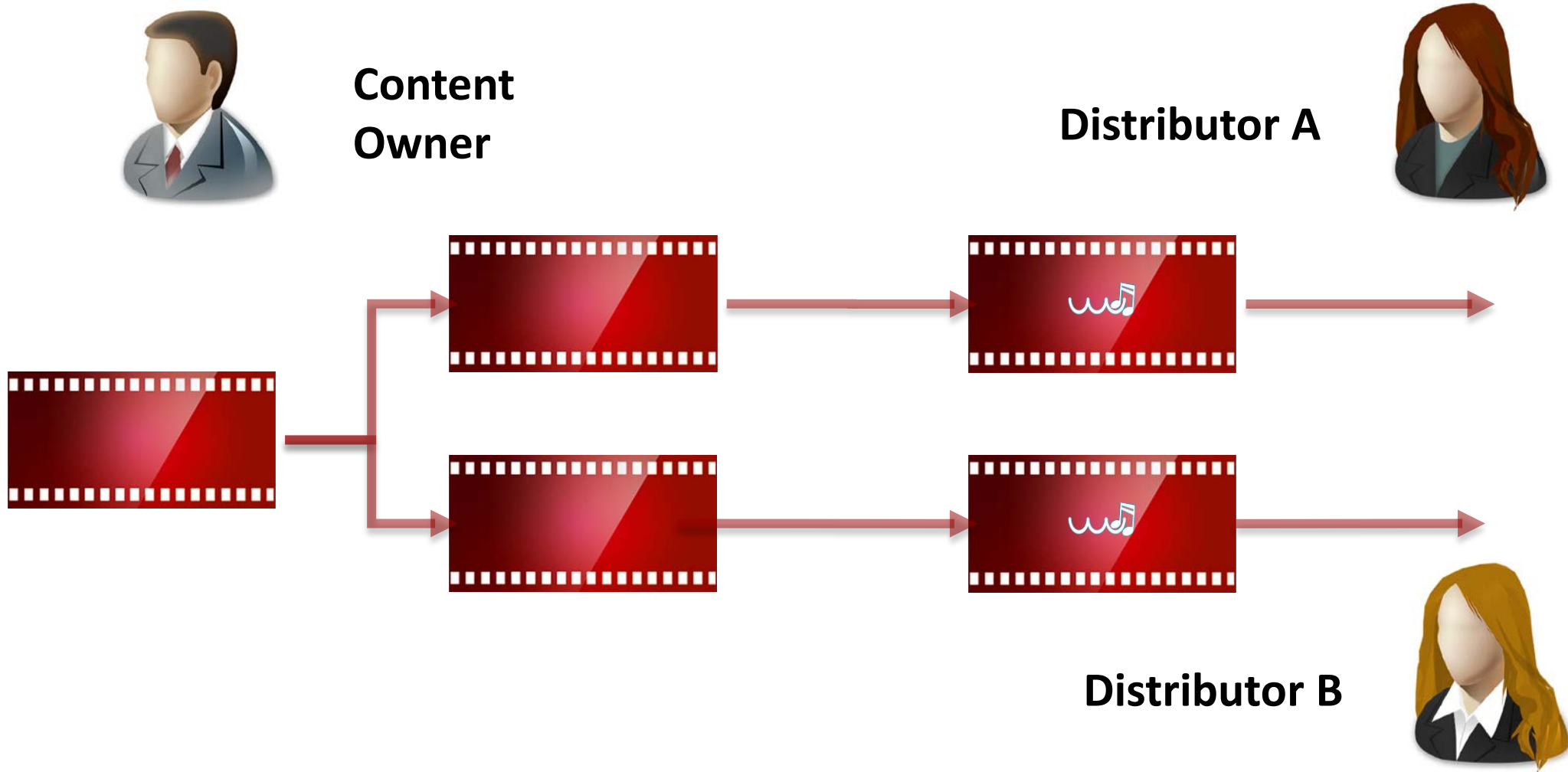
International Packages



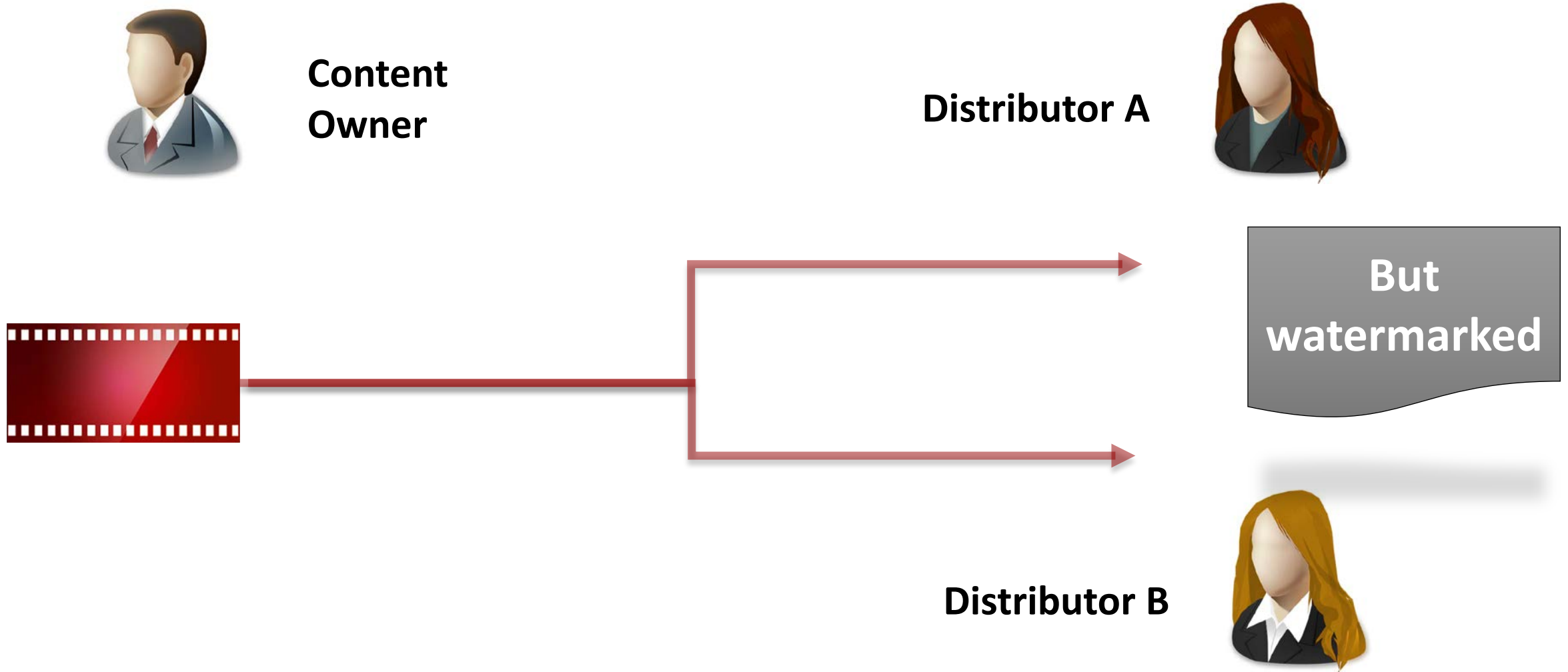
International Packages – The Vision



Distributing the Same Package



Distributing the Same Package – The Vision





Requirements

General requirements

- No change to the existing IMF specifications
- Should piggy back existing work flows
- One IMF package for all
 - Track files stored in a central repository
 - Adding new track files keeps compatibility with previous delivery
- Easy management of keys
- Possibility to check the consistency of the package even when encrypted
- Support service provider handling content on behalf of licensees

Security Requirements

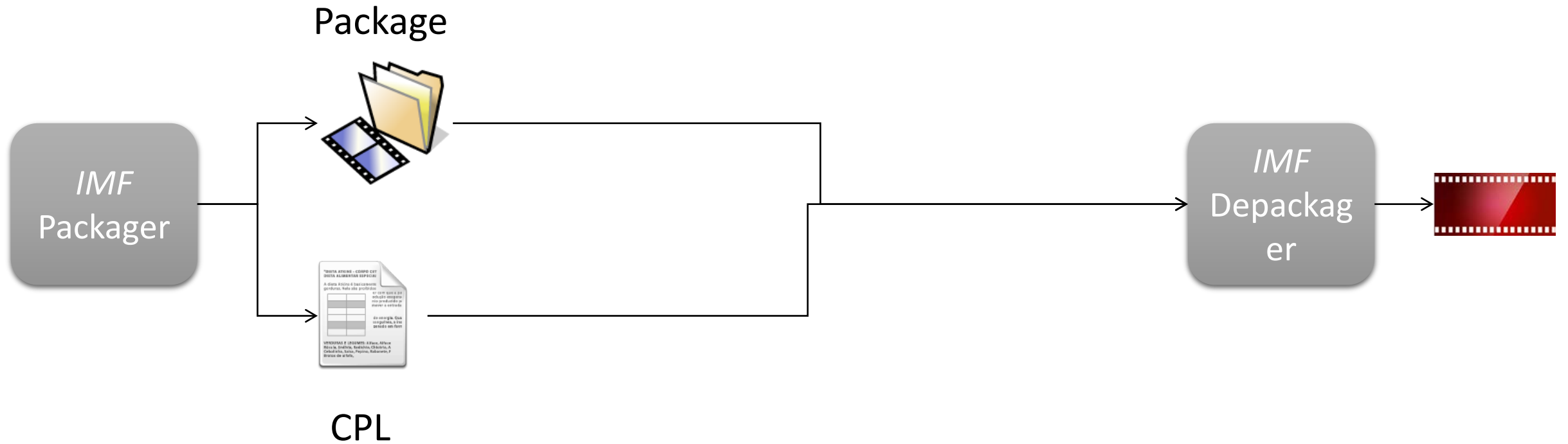
- All track files protected in confidentiality and integrity
- Every licensee may download any protected track files
- Each licensee receives its own secure CPL (sCPL) or a set of sCPLs
 - Without the sCPL, the licensee cannot build the final content
 - A licensee or attack cannot forge or modify a sCPL
- Video tracks should be watermarked when decrypted by the licensee with a payload unique to the licensee
 - Optional feature
- In the case of using a service provider, it acts as an intermediary
 - sCPL dedicated to the licensee, but through the service provider
 - Payload unique to the couple (service provider, licensee)



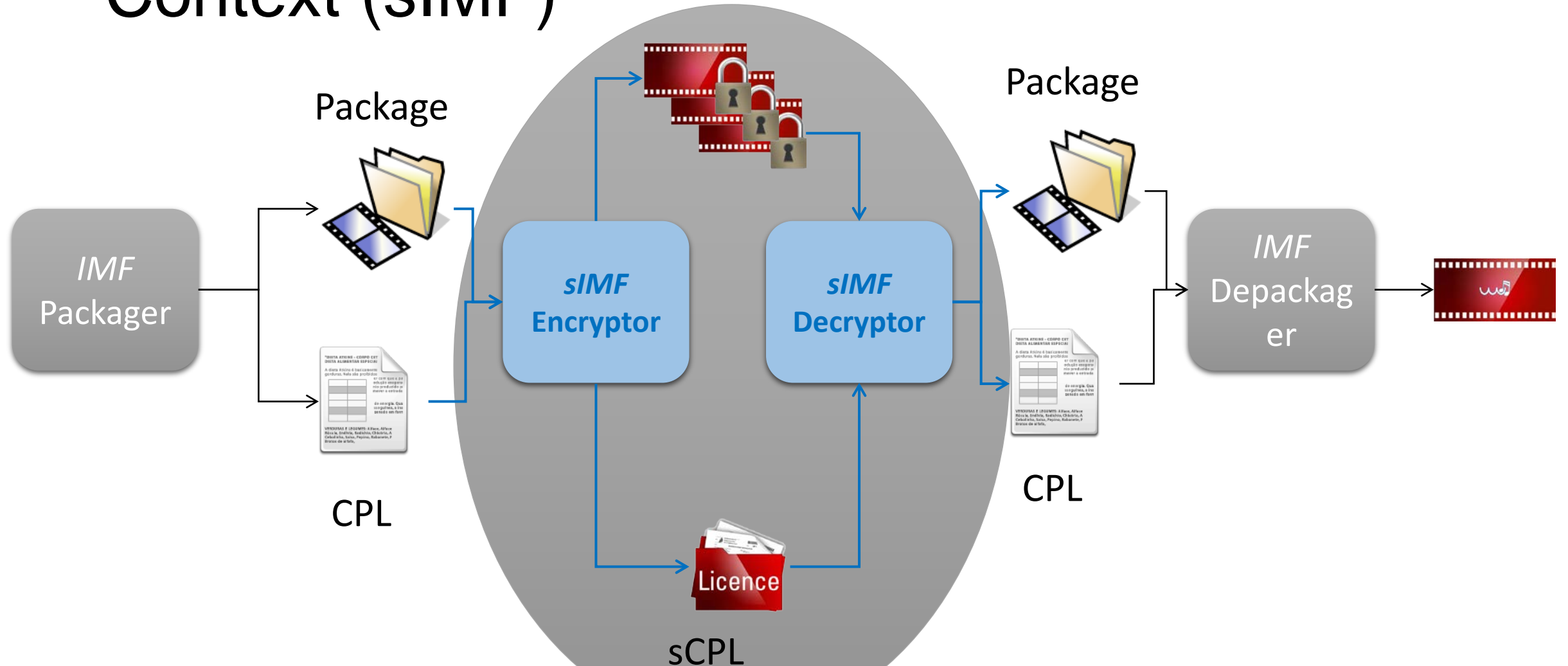
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Architecture

Context (today)



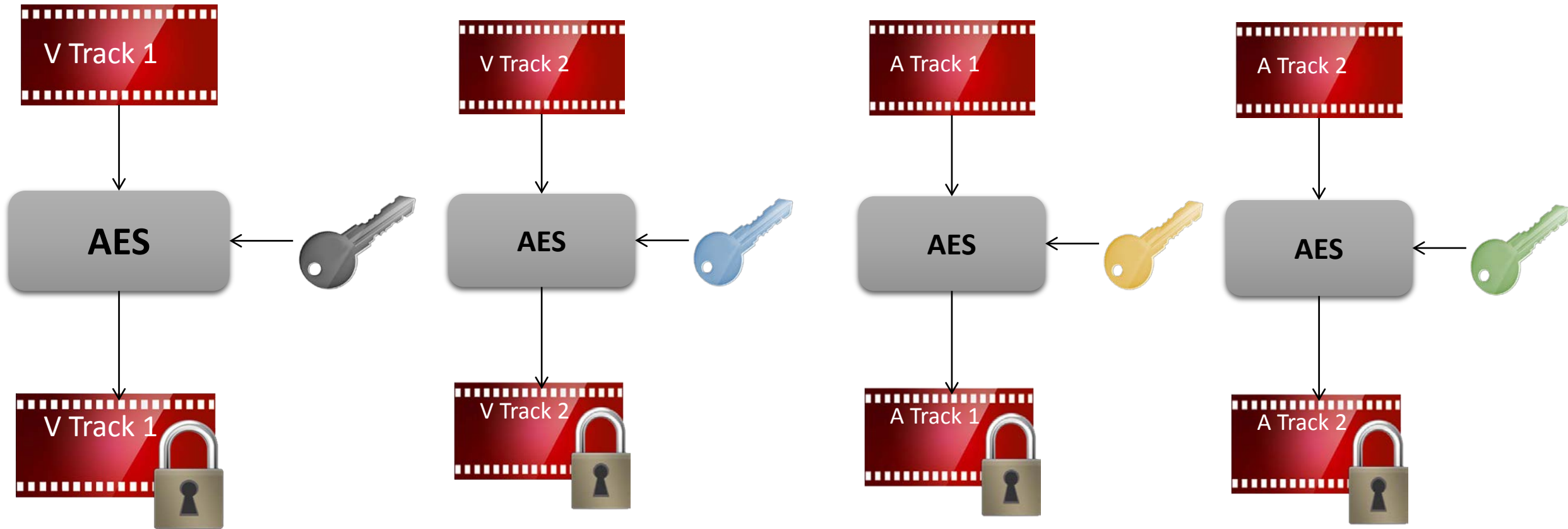
Context (sIMF)





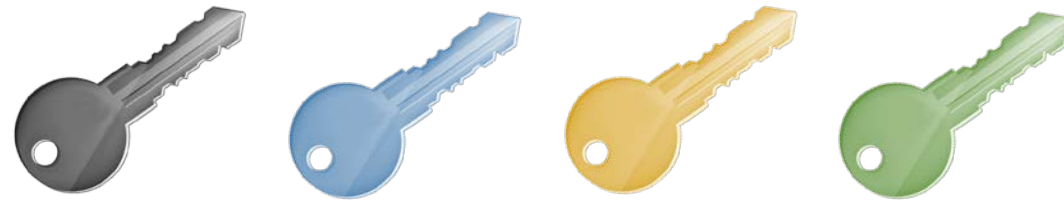
How does it work?

Preparing content



PREPARING SCPL (simplified)

CPL

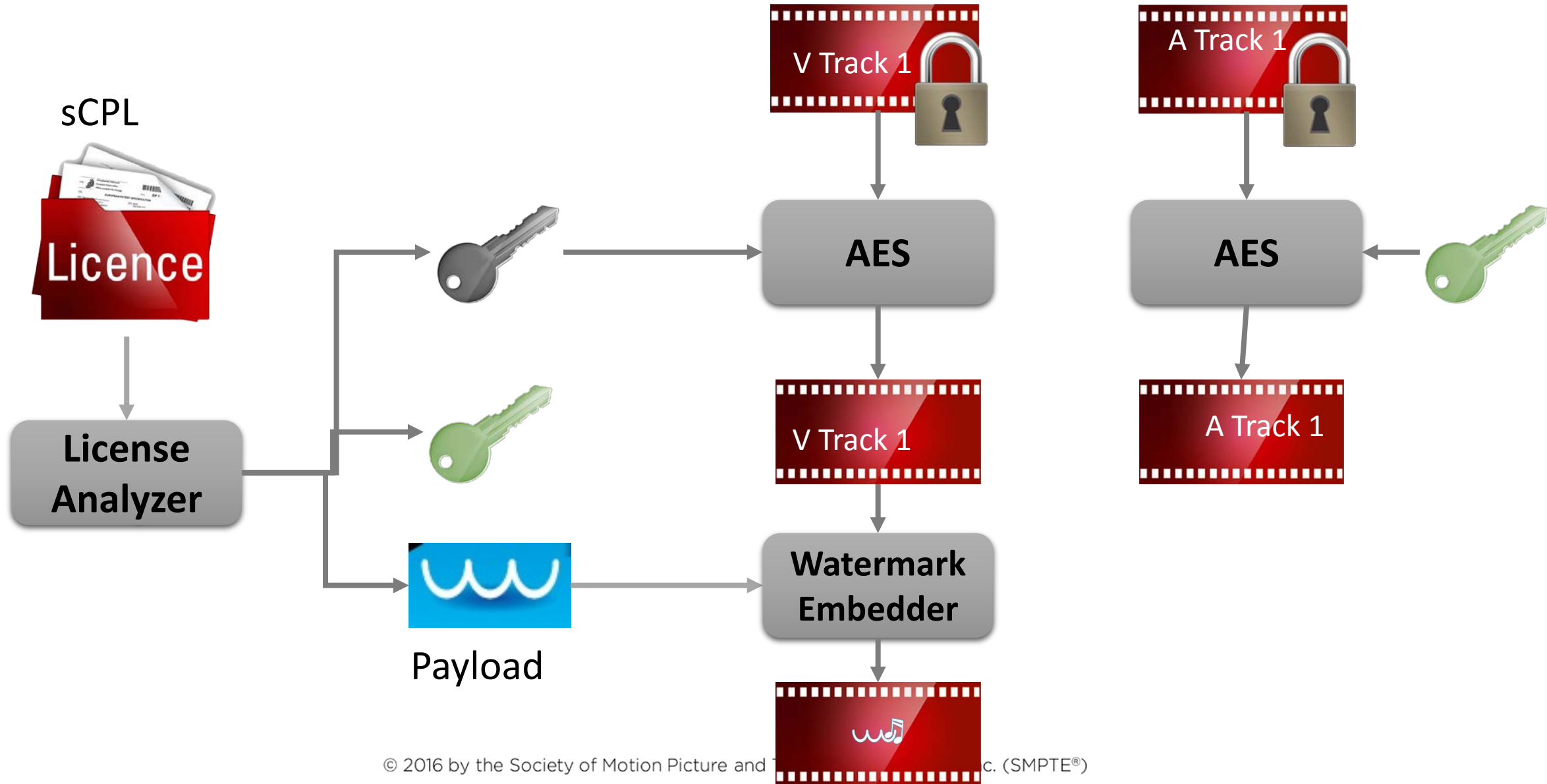


**License
Manager**



sCPL

Recipient
Identity



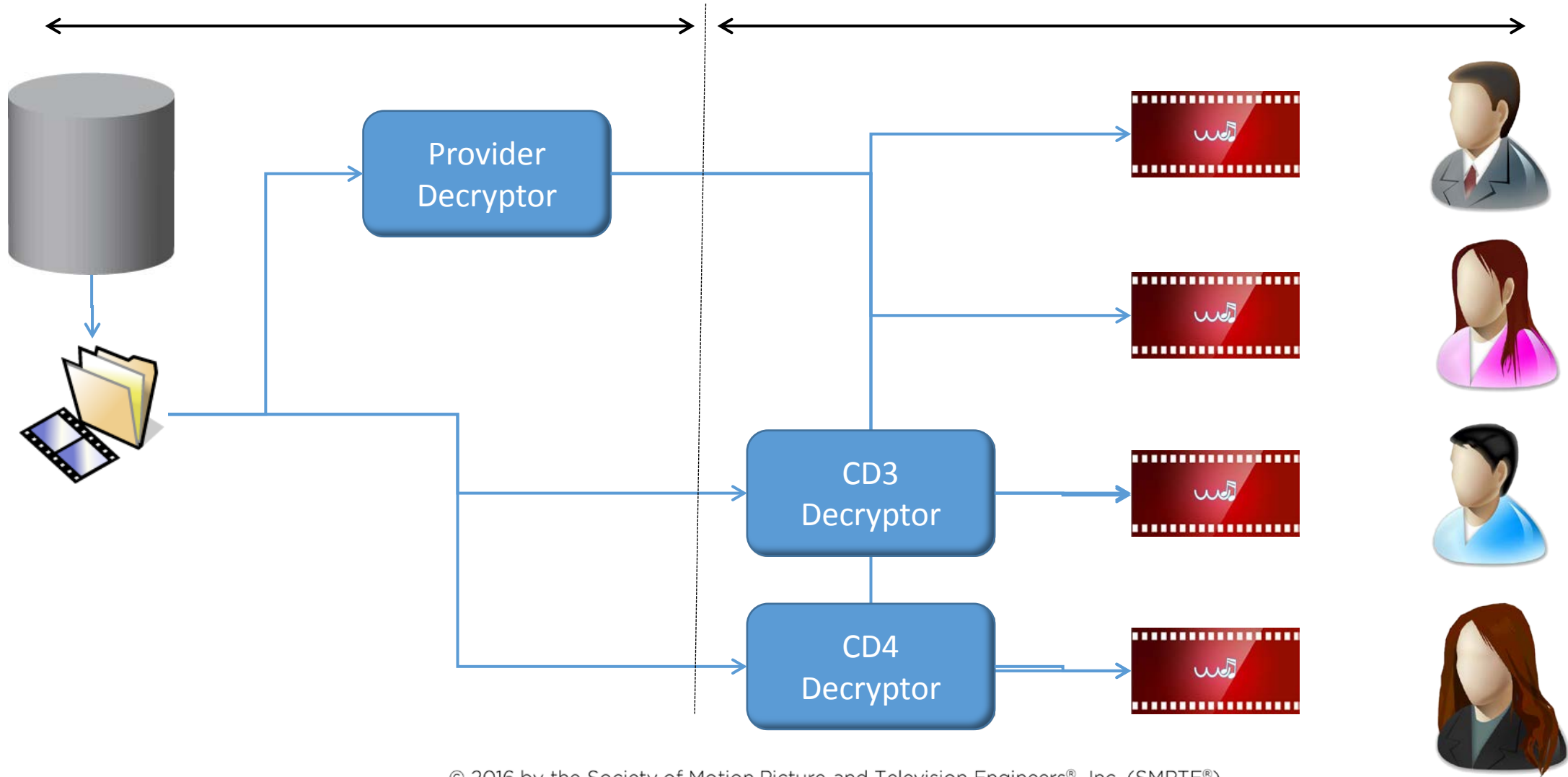


How to go there?

Deployment scenarios

- Phase 1
 - Encryptor and Decryptor are stand alone tools
 - CLI, Web API
 - License Manager stand alone tool with GUI
- Phase 2
 - Encryptor and Decryptor integrated in IMF tools
- Phase 3
 - License Manager integrated in provisioning tools

A progressive deployment



Next steps

- Collect the requirements and support of actors
 - On going
- Specifications
 - On going
 - Looking for off the shelf elements
- Create a small group of partners for a POC
 - Nagravision (and NexGuard) agreed to collaborate on a POC
 - Looking for other partners
- Collect interest from potential partners



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HIGHLIGHTS

Conclusions

- Piggy back on IMF
- Reducing cost of preparation and distribution
 - Same package for every distributor
 - Basic repository
- Added security layer
 - Optional individual licensee watermark
 - Encrypted content
 - At rest and transfer

• Are you interested?





Merci

THANK YOU FOR YOUR ATTENTION
ANY QUESTIONS?