

**TURNER
in
e!**

For HPA-UK

**Better, Faster,
Cheaper and
Lighter... It is possible**

Steve Fish
VP International Media & Technology
Turner Broadcasting
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Overview

- Context
- Three Key Problems
- Solving the problems with IMF
- Outstanding issues to resolve
- Questions

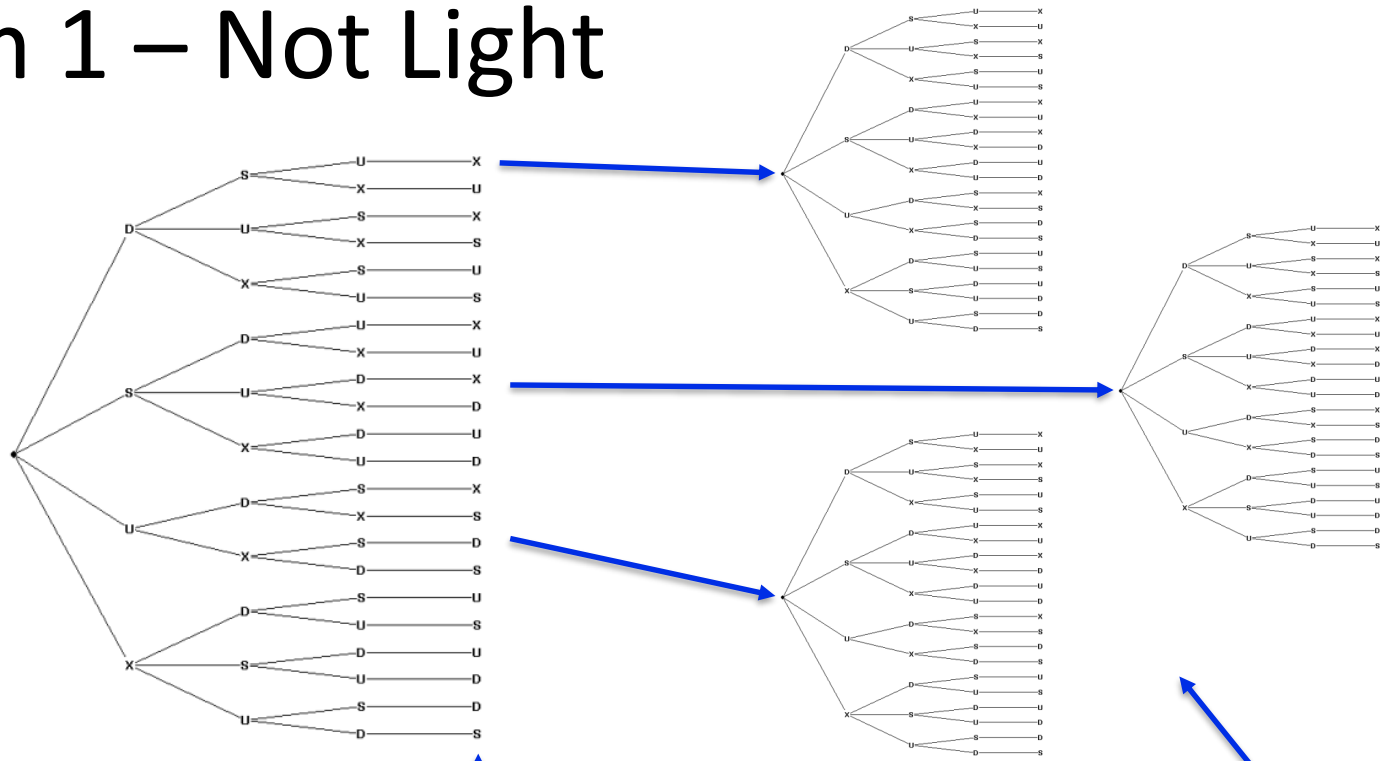
Key International User Stories

- Production Asset receipt (Ingest)
- S&P (including alt scene / alt lines) regionalisation
- Dub / Sub / Title / Credit localisation
- Post Release: Language Addition(s)
- Post, Production Completion: Title and Credit re-supply
- Post Air / Distribution updating
 - Music replacement project
 - Replacement Dubbing (newer shiner talent...)
 - Cultural Changes



Problem 1 – Not Light

1 input asset



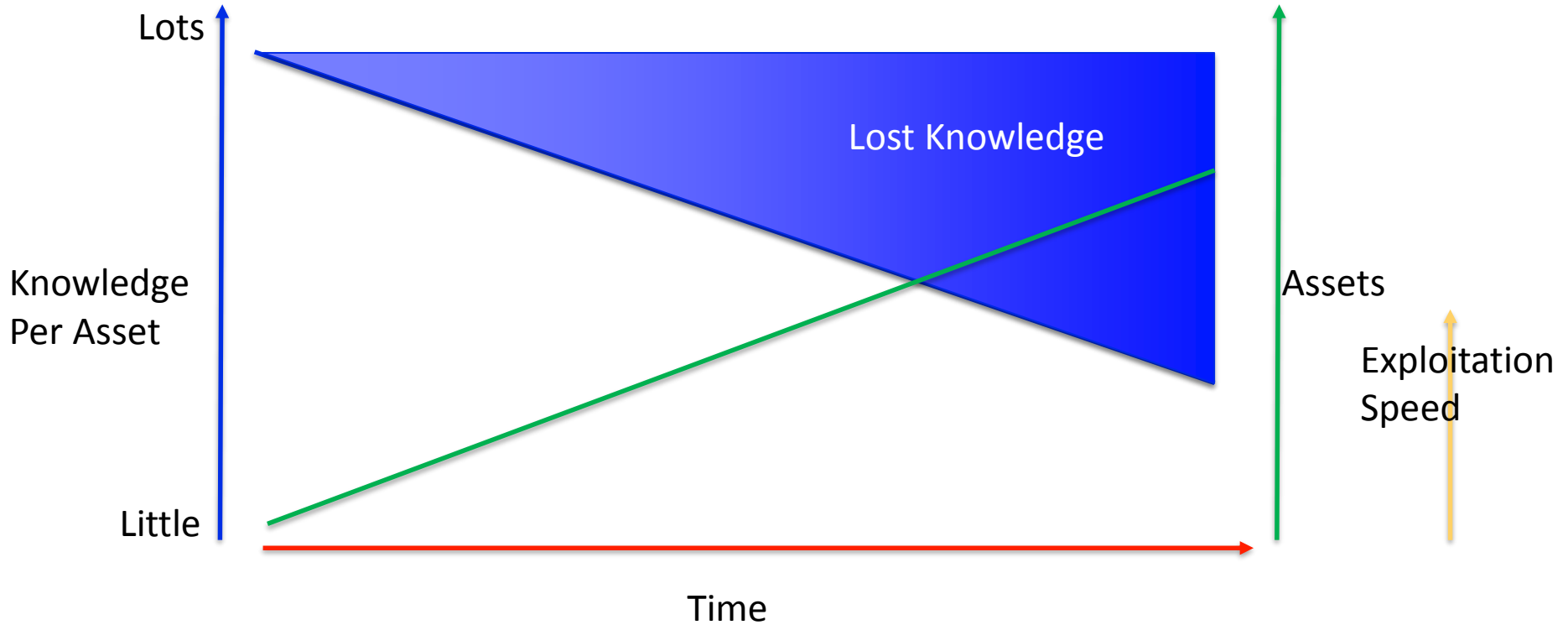
Consequences:

- Storage – a lot
- Essence Duplication
- Lots of Management

Up to 30 assets per programme title
across the globe are stored

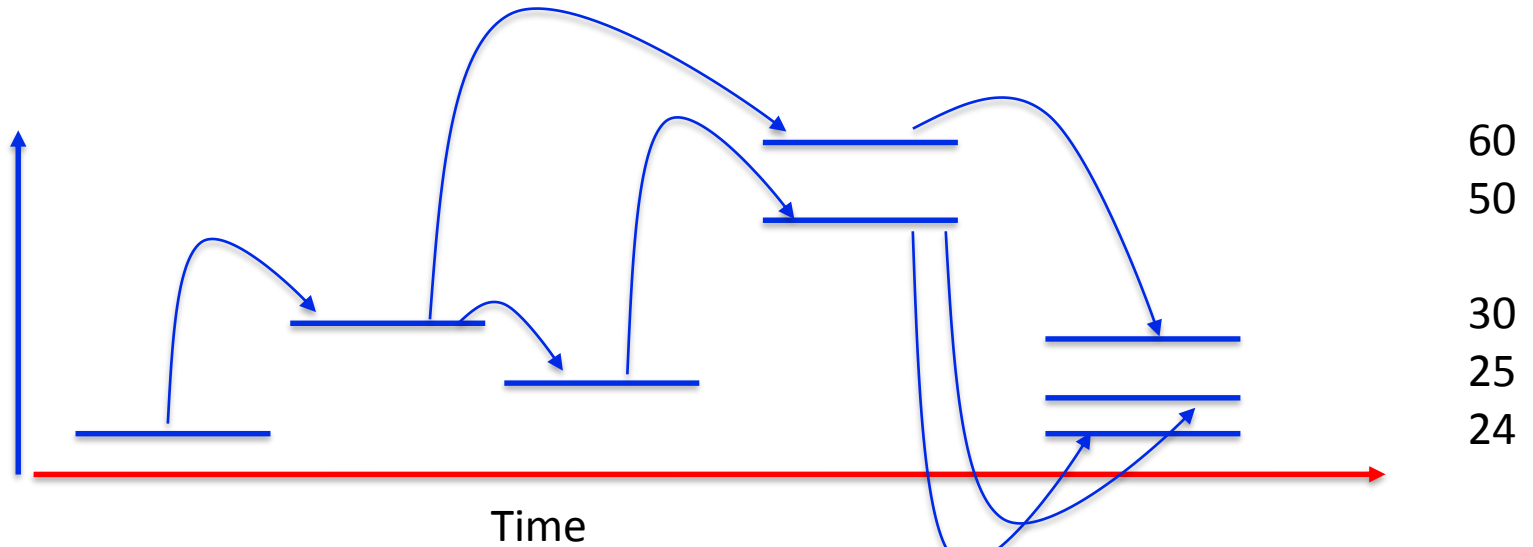
Up to 200 deliverables

Problem 2 – Not Fast



Problem 3 – Not Better

Frame Rate



Stage: PM
Quality: 5/5

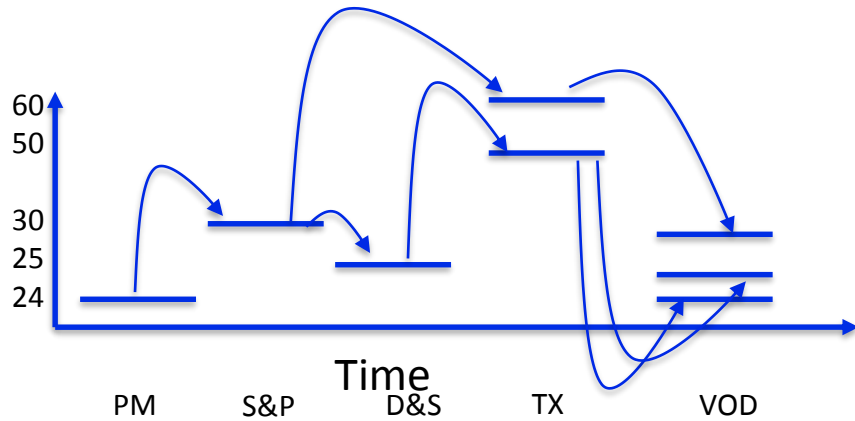
S&P
4/5

D&S
4/5

TX
3/5

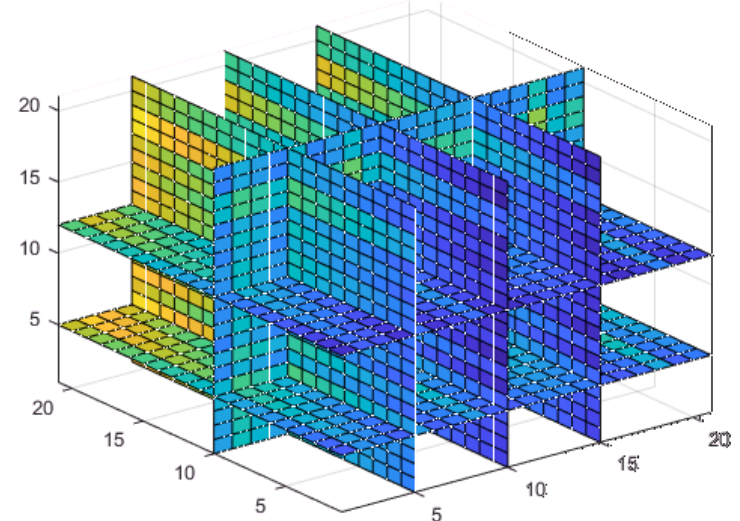
VOD
3 or 2 /5

Problem 3 – Not Better



Don't Forget:

- Codecs
- Bit Rate
- Definition
- Colour Space

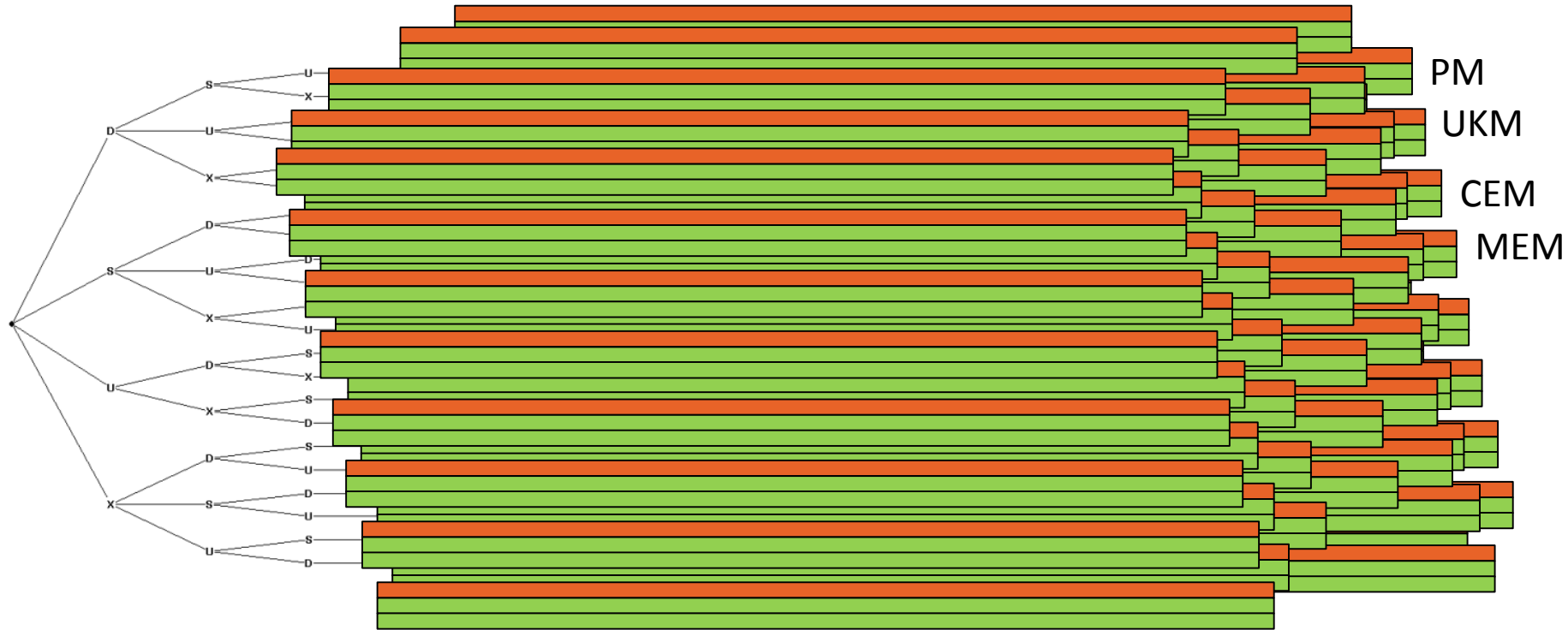


So we're looking for...

- Something that can
 - Eliminate or at least substantially reduce duplication – Lighter & Leaner
 - Preserve Asset Knowledge – Faster & More Agile
 - Preserve Quality – Better & Easier
- And Lighter + Better + Faster == Cheaper
 - And a great balance between Efficiency and Agility



Problem 1 – Not Light



Problem 1 - Not Light



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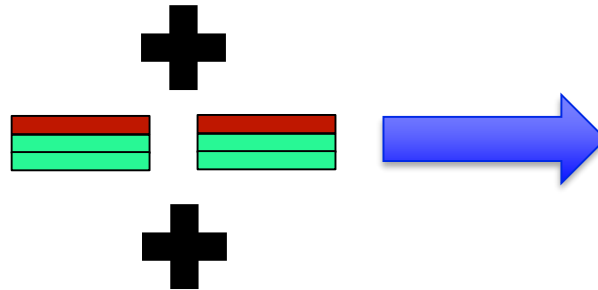
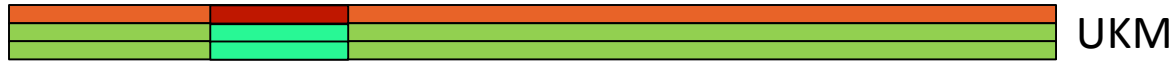
Which is:

- New Content
- Where to put it

Problem 1 – Not Light



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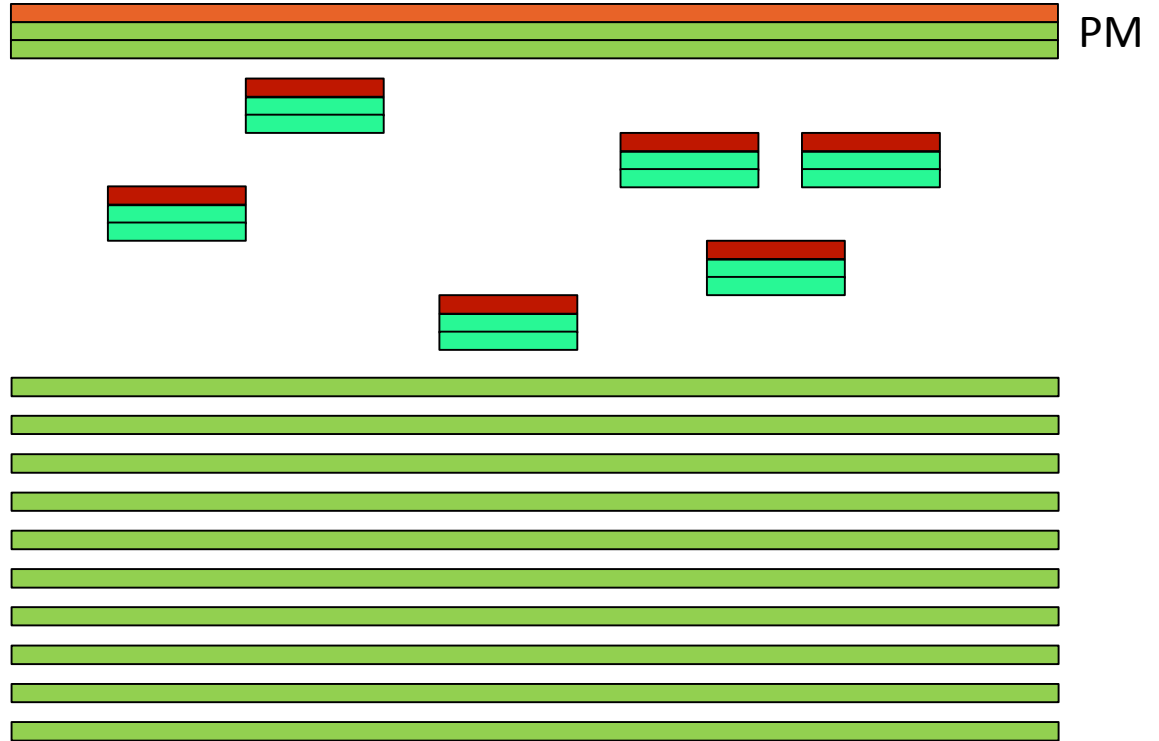
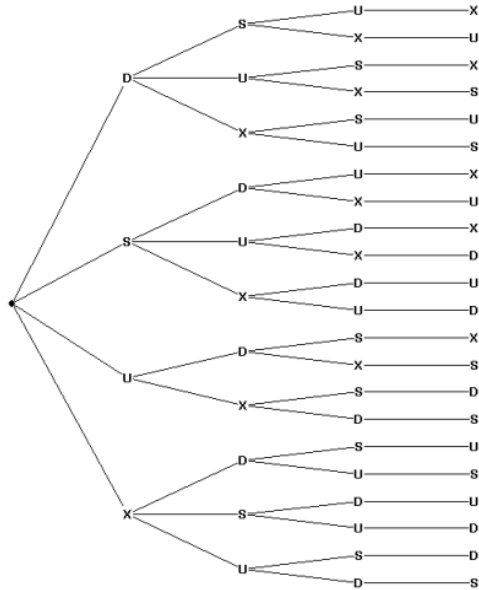


Which is:

- New Content
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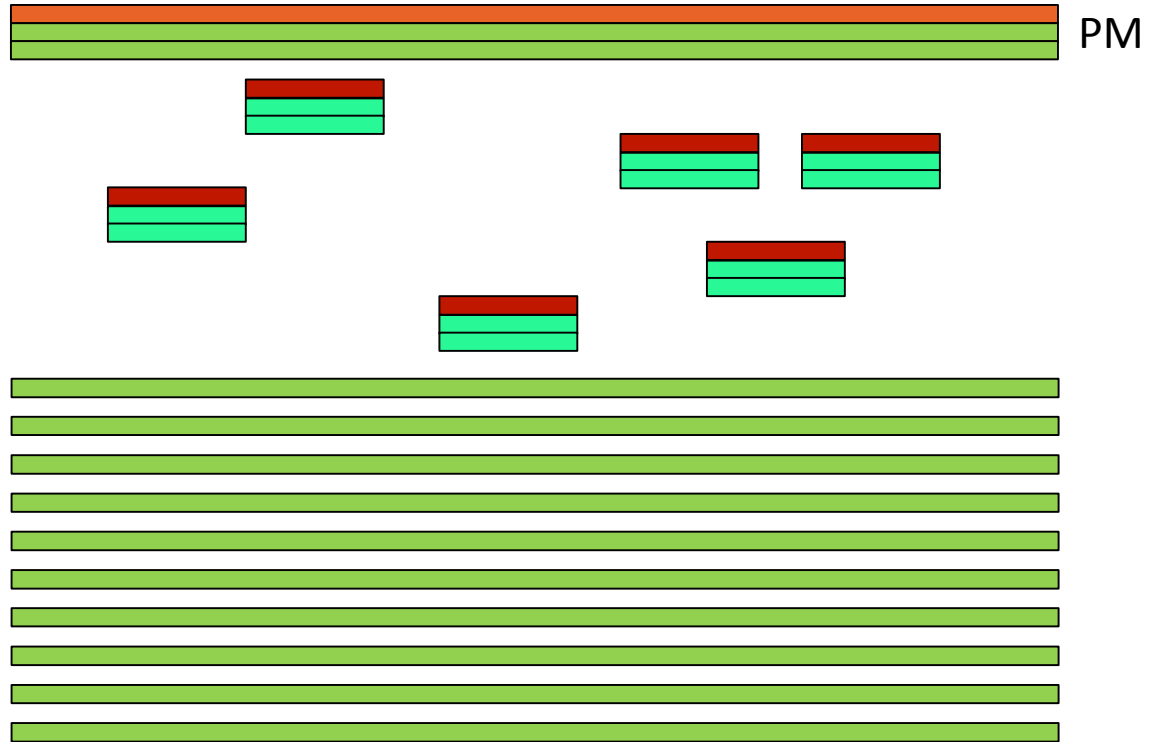


Problem 1 – It is Lighter 😊

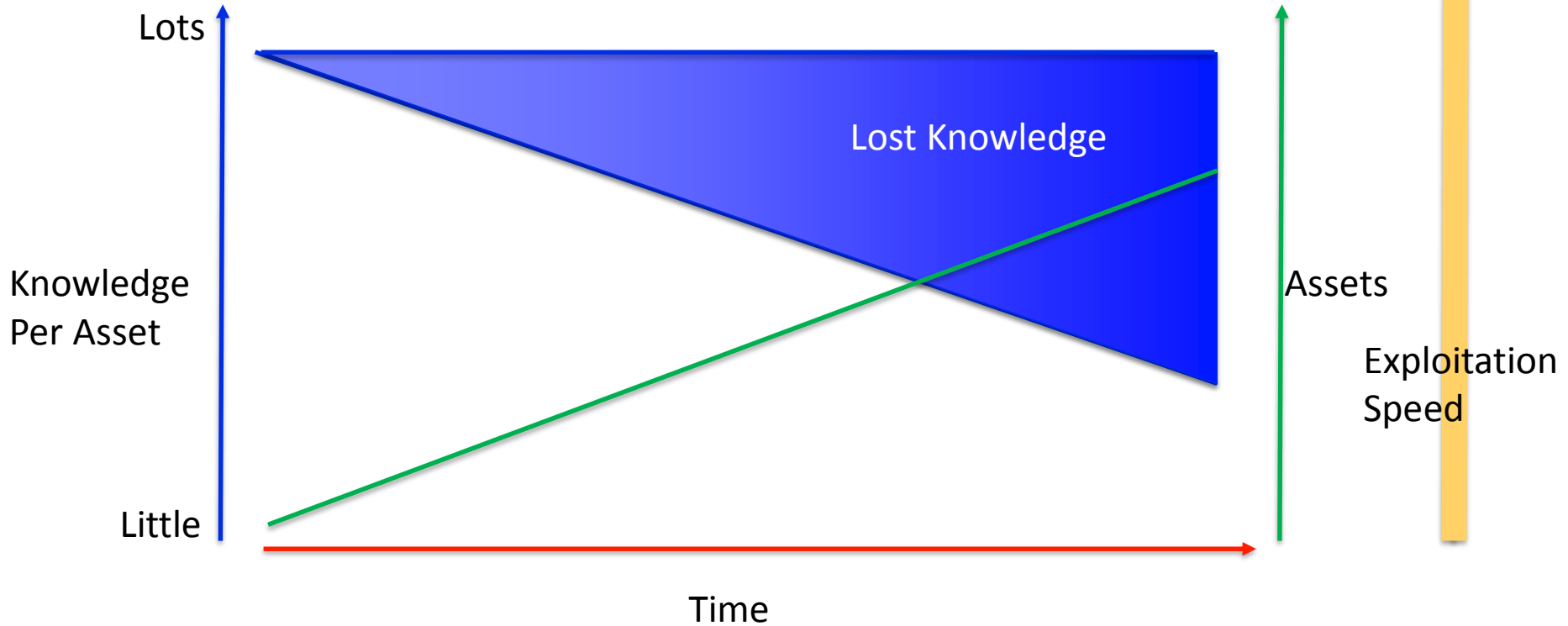


Problem 1 – It is Lighter 😊

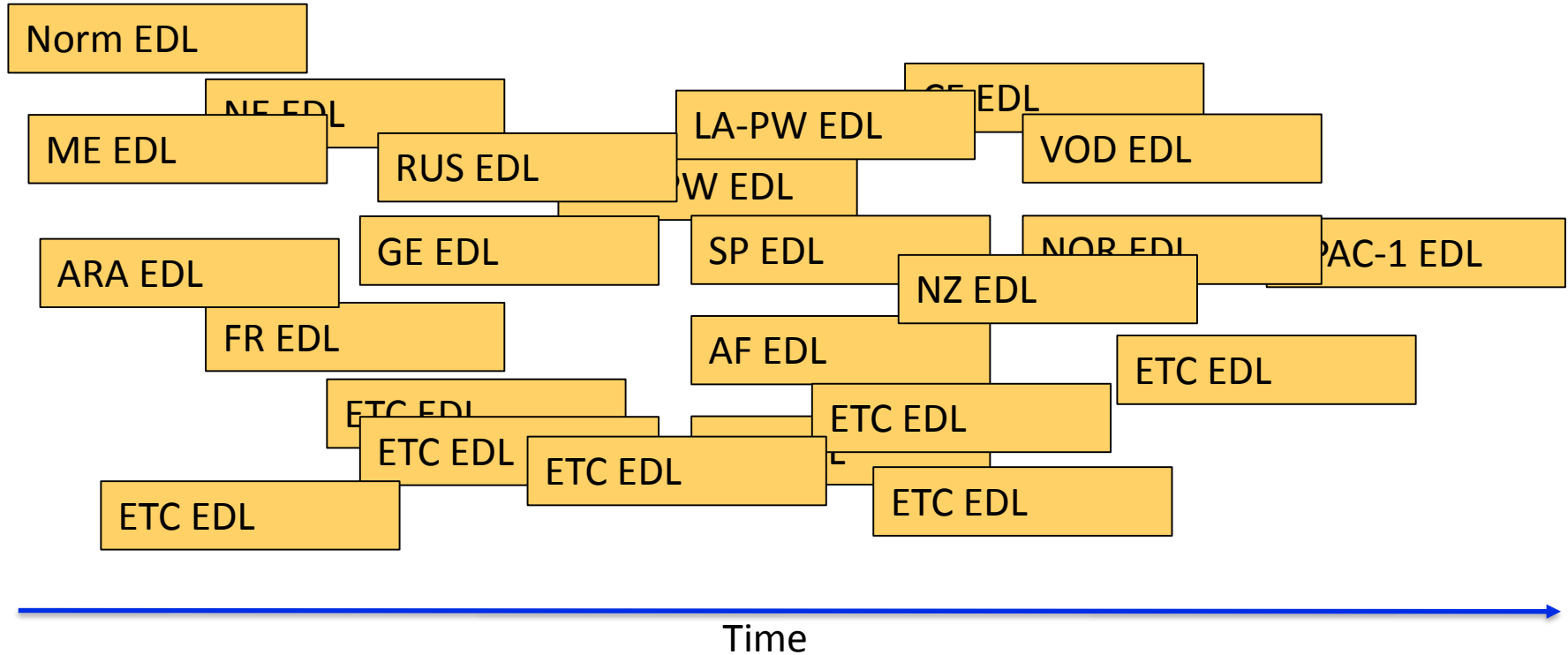
Looks a lot like a
IMF IMP Structure...
or bundle



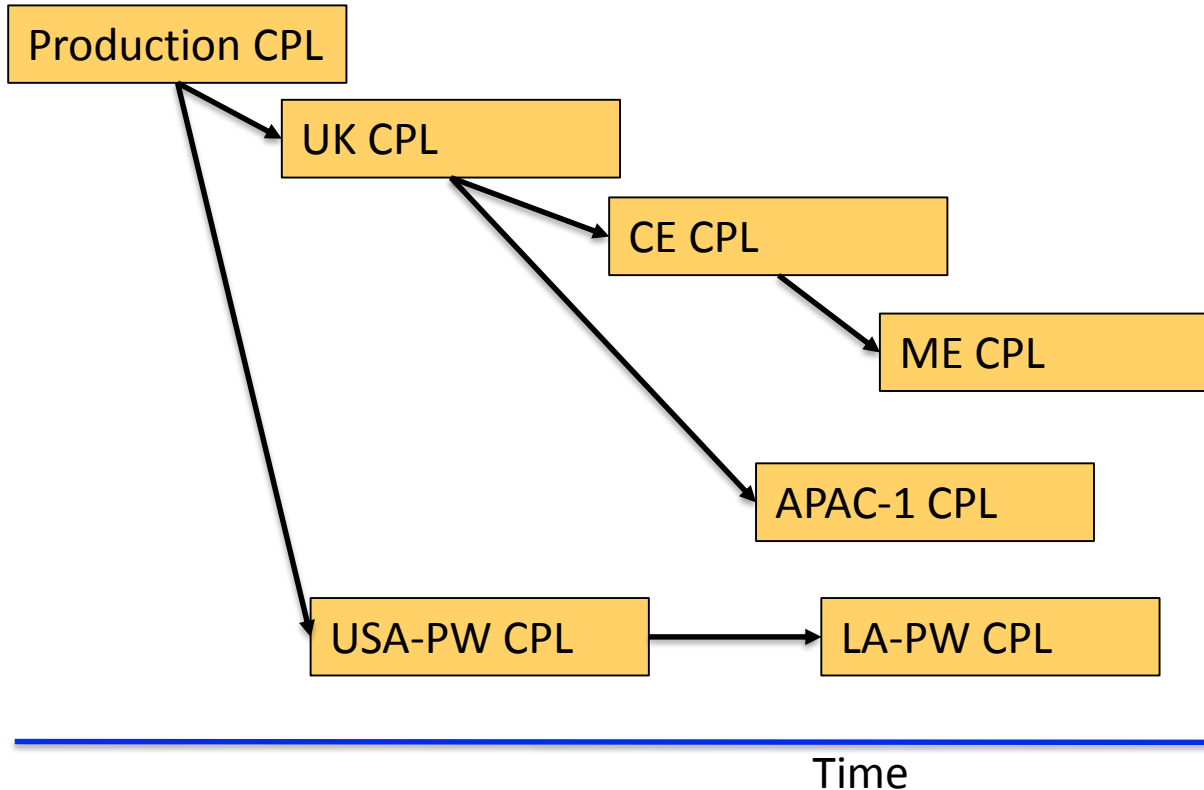
Problem 2 – Not Fast



Problem 2 – Not Fast

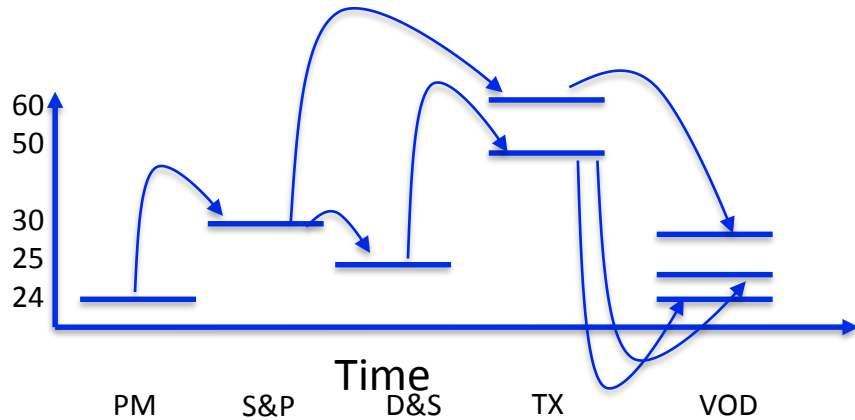


Problem 2 – Know What is Preserve-able ☺



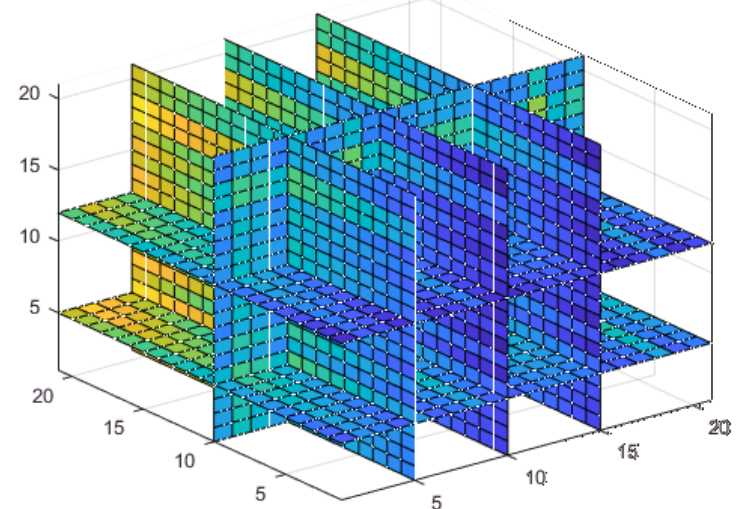
Key point: As this system is under our control we will use a user field to flag the parent CPL which means it's now easy to see how an upstream change will affect downstream assets.

Problem 3 – Not Better

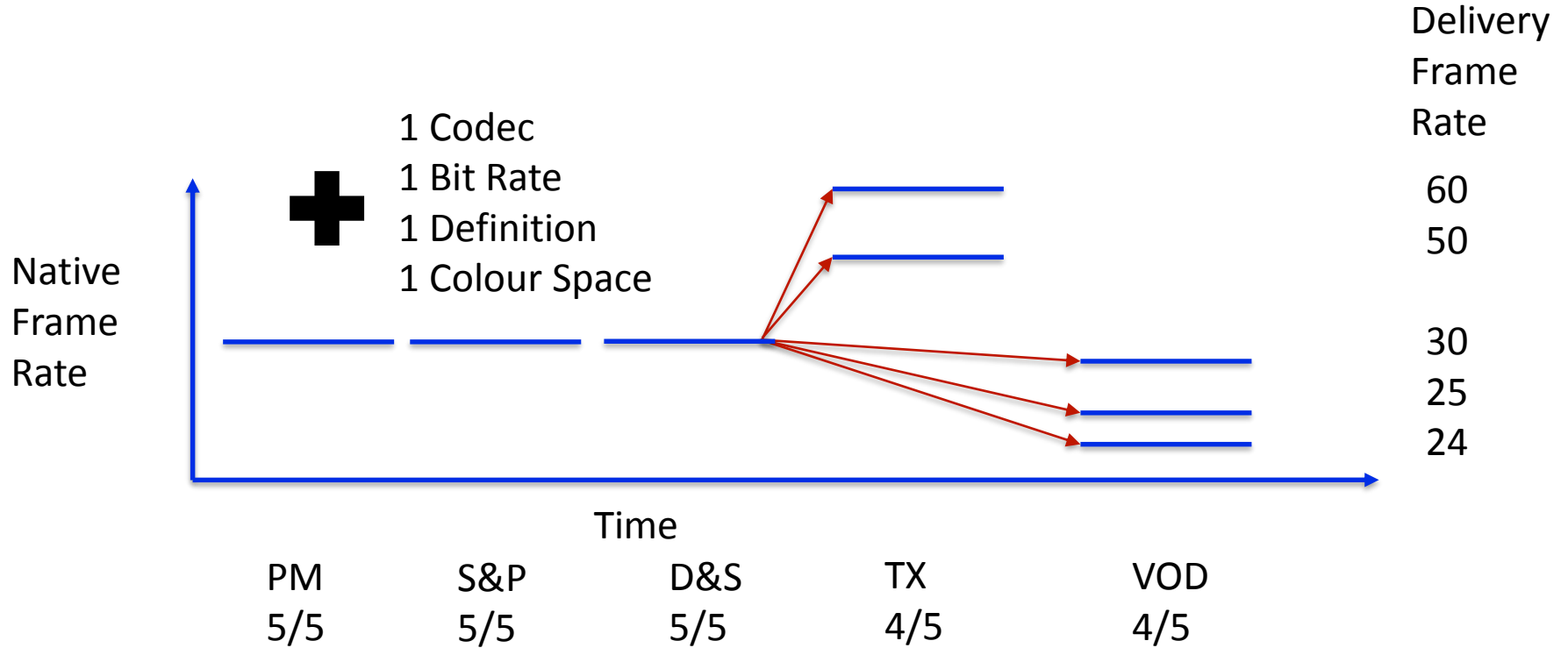


What about:

- Codecs
- Bit Rate
- Definition
- Colour Space



Problem 3 – Much Better



Problem 3 – Preservation of quality 😊

- With only one format in the system
 - Everything done at native frame rate
 - No Loss of quality due to “flipping” technologies
 - IMF designed to use high quality codecs
- Bonus Points
 - Easy to perform changes and see consequences
 - Any asset (Think Language track) can now be easily repurposed on any distributed version without any additional subbing or dubbing work

BONUS

System Design therefore has.....

- IMF as the base format
- To present as a single Repository for all content
- All i/o operations on the repository to enforce IMF ness
- To use IMF constraints to guide system design (not the wild west)
- To enhance and harmonize existing workflows
- Not to be a MAM but to
 - Interface with multiple MAM's Allowing:
 - Discovery of Asset's
 - Change of Status
 - Etc.
- Manage CPL trees
- Present as a human readable structure



What issues are left...

- We need:
 - The 'I' in IMF is Interoperability – in multi vendor solutions this is key
 - Metadata driven workflows imply & require clean metadata
 - Change supply chains to deliver IMF complete and partial IMP's
 - CPL searching, management and validation is the key
 - D&S Houses start to work with IMF
 - Every CPL must have one OPL – The proxy – How to manage proxies when only editing parts of content
 - EWS import CPL + content, Export CPL + Delta Content
- We've started and 1st test material is already in
 - E2E Workflows by EOY

In Summary

- Identified 3 key problems and have solutions for them
- Now mapping solutions into real IMF Implementation
- Needed...
 - To Confirm all edge use cases
 - To build an inventory of test materials the first of which is available
 - Need additional tool sets
 - Working closely with vendors to map this out
 - Works at scale with all it's implications for Interoperability
- DPP / NABA production deliverables specifications to be published as can help with the Industry side of adoption.



Thank You
Questions