

ATA 2300 / Flight Operations Data Implementation: OEM and Operator Perspectives

Bruno Chatel



01. INTRO



Bon matin !



Bruno Chatel

France

30 years experience
in technical documentation/data management



OBE
SOLUTIONS

Founder



- Business expert in aerospace domain, working with major OEMs, airlines and solution providers
- Standard expert (ATA/S1000D), active member of ATA-eBiz program (from 2008)
- Independent consultant (from 1997)

- Dedicated ATA 2300 solutions
- Team of IT and business experts with 15 to 25 years experience

ATA E-BUSINESS MEMBER



2014, San Antonio...



**ATA Spec 2300,
implementation perspectives.
Who, why, what, how... When?**



ATA e-BUSINESS FORUM

San Antonio, June 24th 2014

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Spec ready for implementation Different implementation approaches / strategy

- OEM implementation first with new authoring environment or using a post transformation
- Airline/Operator implementation with OEM input, or without (pre-transformation)
- ATA 2300 as the exchange format between airline solutions (customization to on-ground/on-board viewers)

...2025, Montreal

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11 years later

- What is the status (OEM and airline/operators)?
- Implementation approaches in both environments:
 - OEM production system
 - airline/operator
- Feedback, strength and weakness, tricky points and implementation choices that need to be analyzed, benefits.

02. ATA 2300



Data Exchange Standard for Flight Operations

Spec 2300: Data Exchange Standard for Flight Operations

Revision 2024.1



ATA e-BUSINESS PROGRAM

All you need to

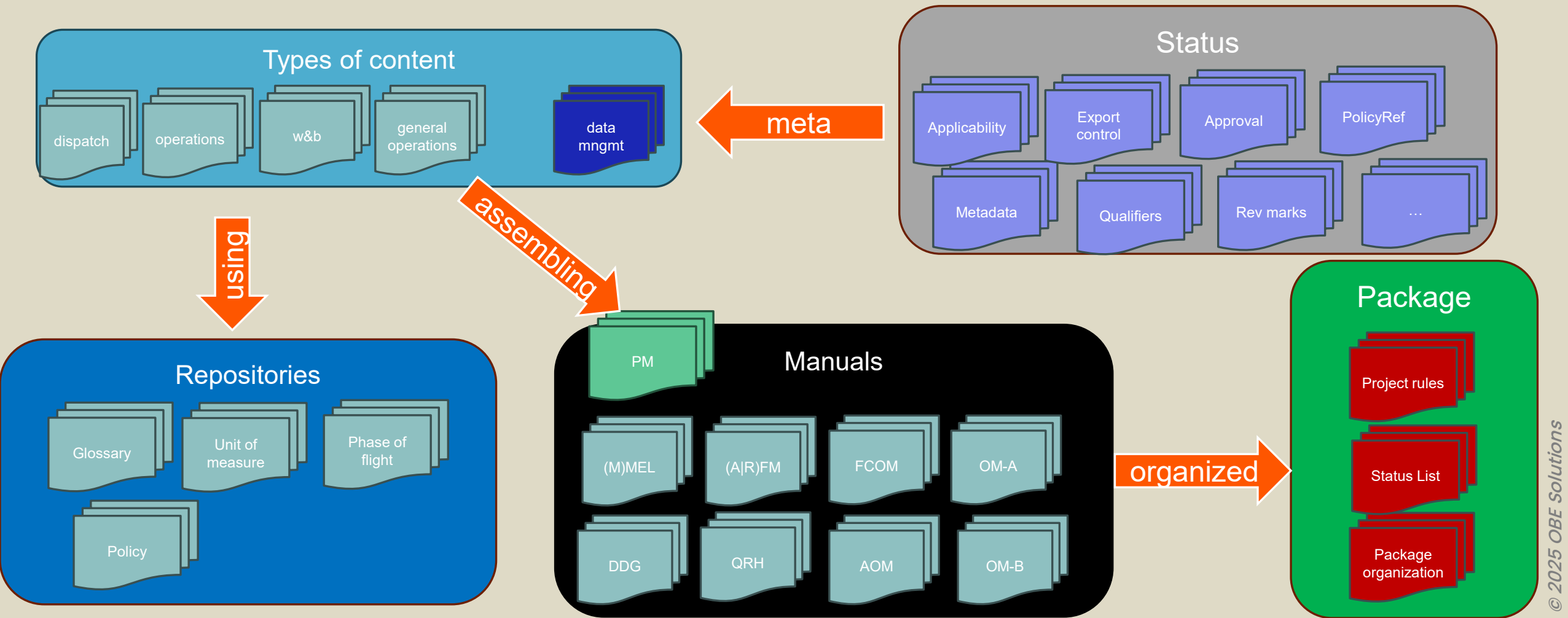
- › Exchange flight ops data
- › Manage aircraft related and non aircraft related data
- › Cover all types of technical content (dispatch, operations, w&b, company manual,...)
- › Control data integrity and validity

Using

- › XML
- › Highly modular data centric data organization
- › Scalable data organization
- › Controls by XML Schemas.. And standard shematron rules (WIP)
- › Generic structures with project defined rules

STANDARD !

All the scope... based on years of work of the dedicated working group FOWG



All the scope... based on years of work of the dedicated working group FOWG



Types of content

Spec 2300

Status

dispatch

operations

w&b

using

Repositories

Glossary

Unit of measure

Policy

Technical Content Schemas

Dispatch Schemas



General Schemas

Profit Matter	Supplemental Content
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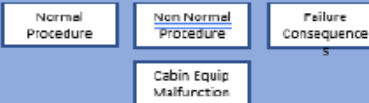
Limitations Schema

Limitation

Approval Schema

Approval	Subset Header
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Procedures Schemas



Operations Schema

General Operations

Performance Schema

Performance

Systems Schema

Annunciation	System Description
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Substantiation Schema

Substantiation

Data Management Schemas



ed

Package

Project rules

Status List

Package organization

Complete = complex ?

Data management:

- Translate complex data management features in functions
- Implement generic controls
- Cover whole perimeter

Yes



Business only

- Focus on business concepts and objects
- Automatic controls and process
- Secured content / quality
- End to end digital / complete perimeter

No



What's new?

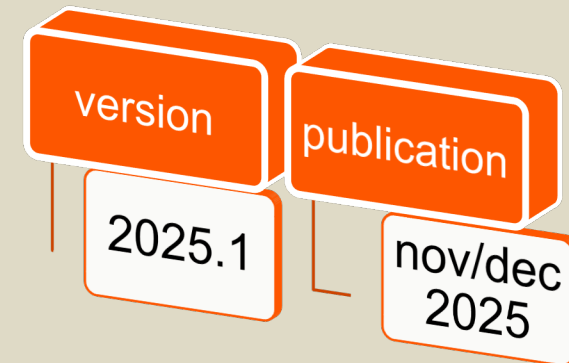
2024

- › Clarifies the use of Deferral Type in the Dispatch Qualifier Repository
- › Corrects errors to align pmStatusEntryCode with PM issueType
- › Differentiates the product (i.e., manual) issue information from the PM (Publication module) issue information
- › Adds a new optional property in the Publication Module Entry to flag it as quick access.
- › Enables tagging of DMs, PMs and ICNs (illustration and multimedia) with security classification and export control.
- › Adds Content Guidelines for the Glossary Repository.

2025

- › Layer in PM
- › Correct error on attribute value "thumbnail"
- › ICN Status Management
- › Update Appendix 3, Deprecated Content, in Spec 2300
- › Policy Repository Enhancement
- › Export control and Security classification Repository
- › ICN Variant
- › Use of Schematron to provide project rules (context rules)
- › Empty cond list in the CCT
- › Deprecate attribute internalRefTargetType
- › Namespace declaration for XPATH
- › Content Guidelines

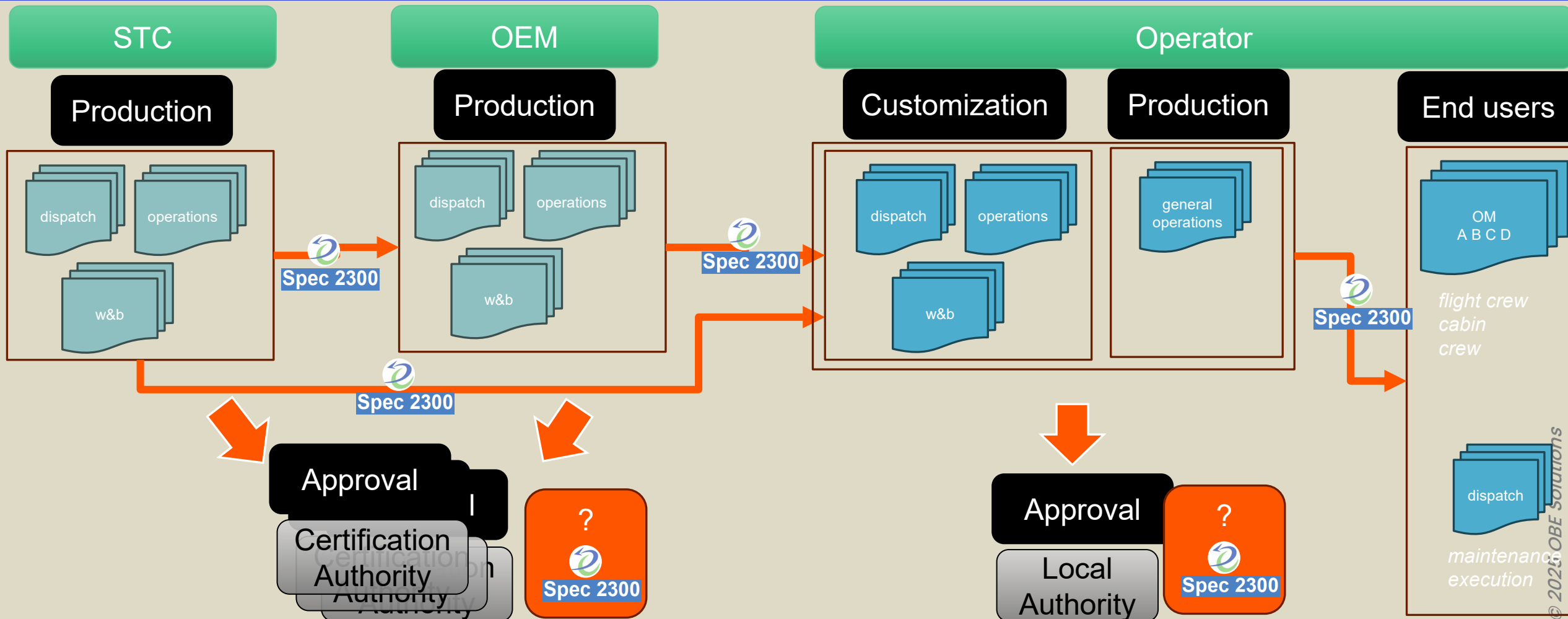
to be continued...



03. Process



Data flow, using the standard



Expectations –high level–

STC/OEM

- > Multi programs
- > Dedicated rules
- > Envelope
- > Technical and operational configuration (logical)
- > Integrated with upstream (design, manufacturing) systems
- > Async data update/authoring
- > Continuous approval (by packages/sub-set)
- > Async approval for multiple authorities
- > Fleet productions
- > Async/On demand production

- > Digital continuity : end to end process using full digital data
- > Secured process
- > Fully functional
- > Global FO perimeter

Operator

- > Single solution
- > Mixed fleet
- > Technical / OEM originated manuals customization
- > Revision reconciliation
- > Company manuals
- > Manual based life cycle
- > Compliance tracking (safety, regulations, company)
- > Translation
- > Non proprietary, non OEM based
- > User intuitive
- > Vendor independence

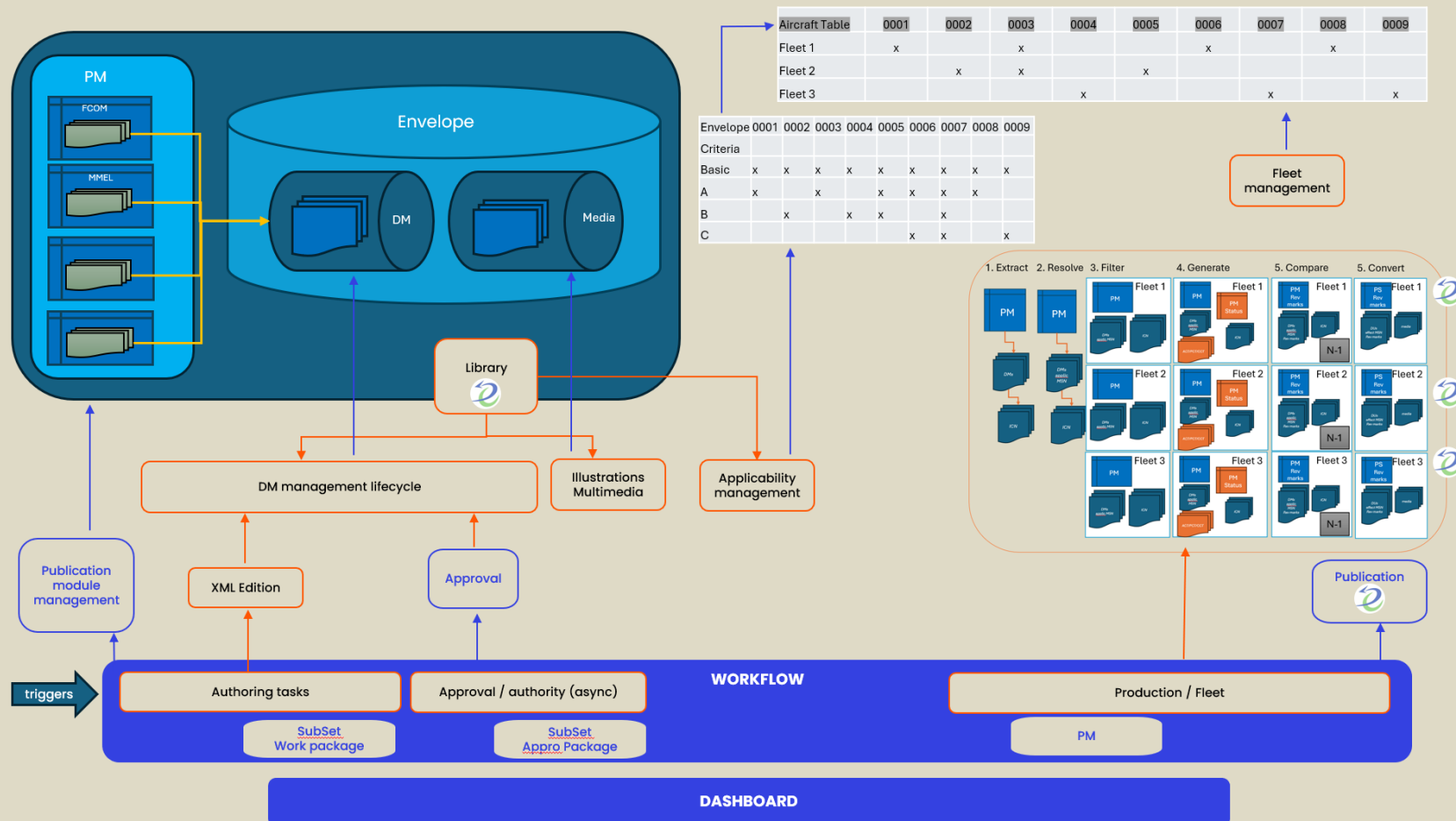
End users

- > EFB
- > MSN / Cond filtered
- > Interactive
- > Trackability
- > Up to date
- > On ground
- > on board
- > Web/Tablet
- > Enhanced search
- > Change highlights



Spec 2300

OEM production environment



Key points

- › Manage logical or resolved applicability
- › Technical criteria and fleet definitions
- › Business objects vs native ATA2300
- › Reuse of DM
- › Common system with S1000D
- › Work package / SubSet
- › Define project rules

Caution

- › Dedicated workflow / subset
- › Asynchronous approval
- › On demand production
- › TR management
- › Revision marks computation
- › ATA2300 validity for produced packages

OEM production environment

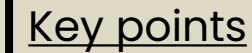
→ ATA 2300

Hints and Tips

- › XML Schemas: Mostly for DM Content technical content
- › Produced packages (manuals / fleet) must comply 100% to ATA 2300
- › Use of business objects for data management and serialize it in XML ATA 2300 during production
- › Reuse DM / different PM / layers
- › Logical applicability management with technical and operational criteria

ATA 2300 strengths

- › DM Status vs DM Content
 - Asynchronous Approval : Use of multiple DM Status views for 1 DM Content
 - Production / fleet : Filter and produce different DM Status for 1 DM Content
- › Project Rules / Schematron
- › SubSet / work package / appro package
- › Container and alternates
- › Secured data with repositories



- > Manage fleet and conditions
- > Single solution for all a/c types
- > OEM originated manuals customization
- > Company manuals
- > Use project rules
- > Versioning

Caution

- > OEM revision reconciliation
- > Manual approval
- > Compliance tracking
- > User friendly / intuitive usage
- > Production output(s) / Publication Multi-channel

Airline customization environment

→ ATA 2300

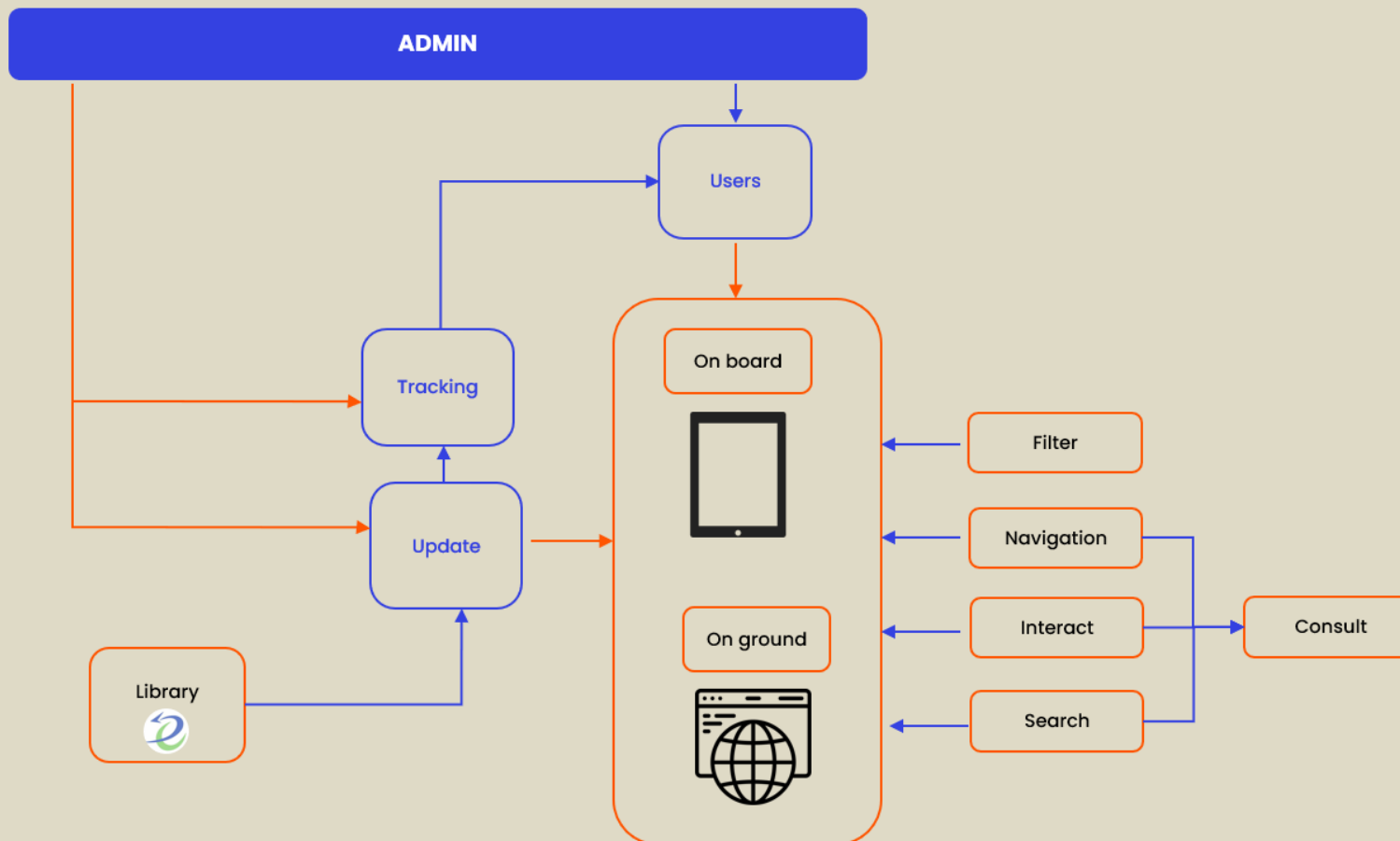
Hints and Tips

- › Focus on an intuitive UI: all data management ATA 2300 features are managed as business concepts
- › Simple workflow
- › Interactive revision reconciliation

ATA 2300 strengths

- › Manage any type of manuals using exactly the same structures and concepts
- › Technical OEM originated manuals as well as Non-Aircraft related manuals (company manuals)
- › Independent of OEM and a/c Types
- › Controlled and secured
- › Compliance tracking natively covered, independent of the policies
- › End-to-end digital
- › Standard → No vendor lock in

End user environment



Key points

- > On ground (web)
- > On board (tablet/mobile)
- > Update
- > Trackability
- > Filtering (MSN / Conditions – SB)
- > Interactive
- > Native load or on ground preprocess

Caution

- > Software and hardware certification
- > Quality process / development
- > Regulatory constraints (e.g. EASA AMC 20-25 appendix D)
- > e-QRH
- > UX / Design / Optimized UI Navigation

End user environment

→ ATA 2300

Hints and Tips

- › The End of PDF !

ATA 2300 strengths

- › Highly business oriented structures
- › Any types of content / manuals
- › Controlled and secured
- › Applicability for filtering
- › Processable and scalable
- › Structured content providing smart navigation

04.



the answer is...



The remaining question is....

WHEN?

NOW !

Get in Touch



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ORANGE BLUE EARTH

the future is now