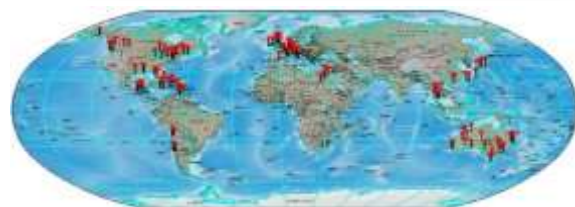# Using ATA e-Business Standards for Aircraft & Asset Records Transfers

Oct 2022, Ken Jones
IATA Maintenance Cost Conference

ATA e-BUSINESS PROGRAM

ATA e-Business Program

- International standards program for information exchange to support engineering, maintenance, materiel management and flight operations.

- Open membership
    - 90+ companies in 33 countries
    - Over 800 active individual participants

- Neutral, consensus-based

- Collaborative web site: **www.ataebiz.org** for documents, balloting, calendars, email
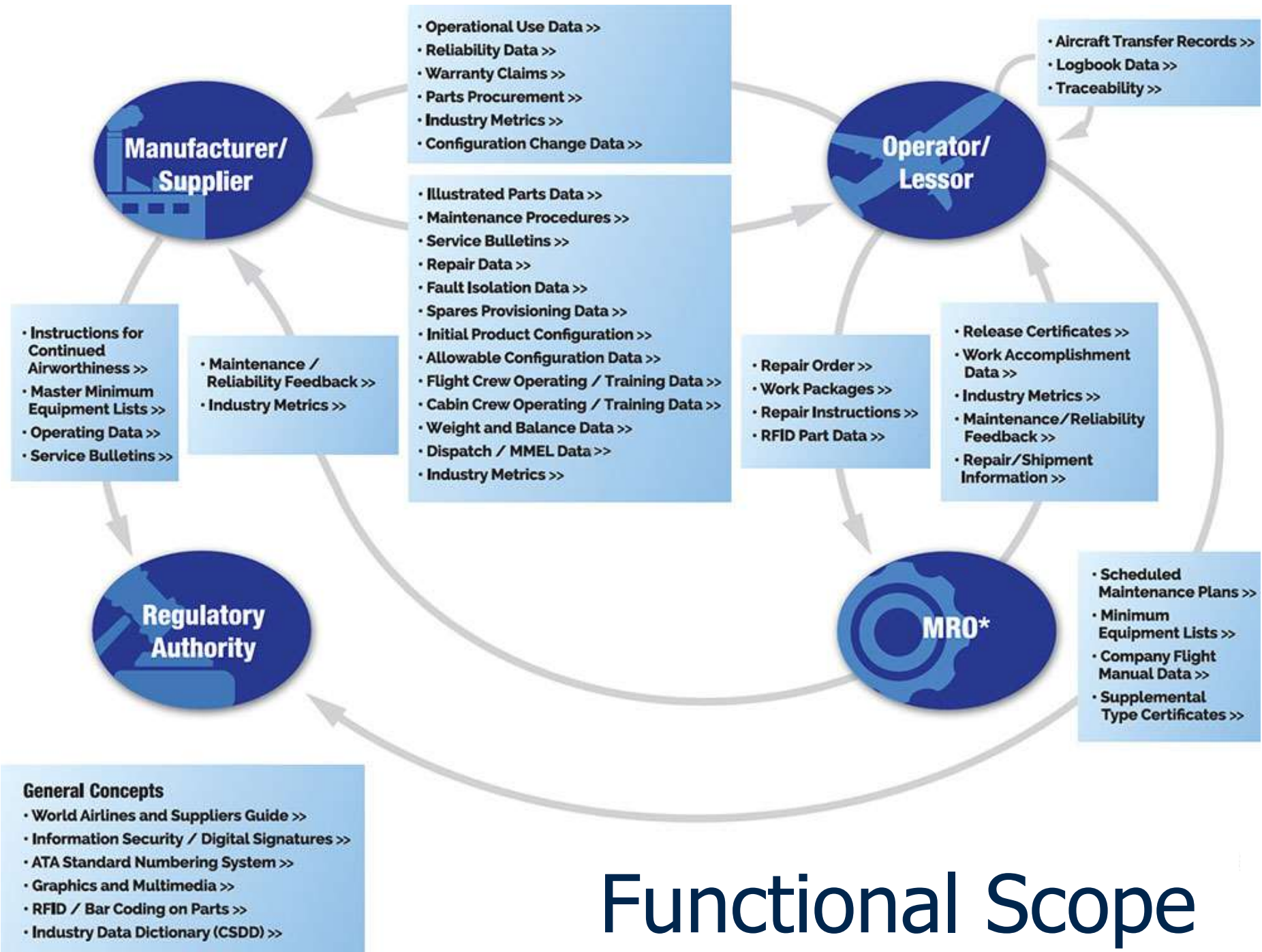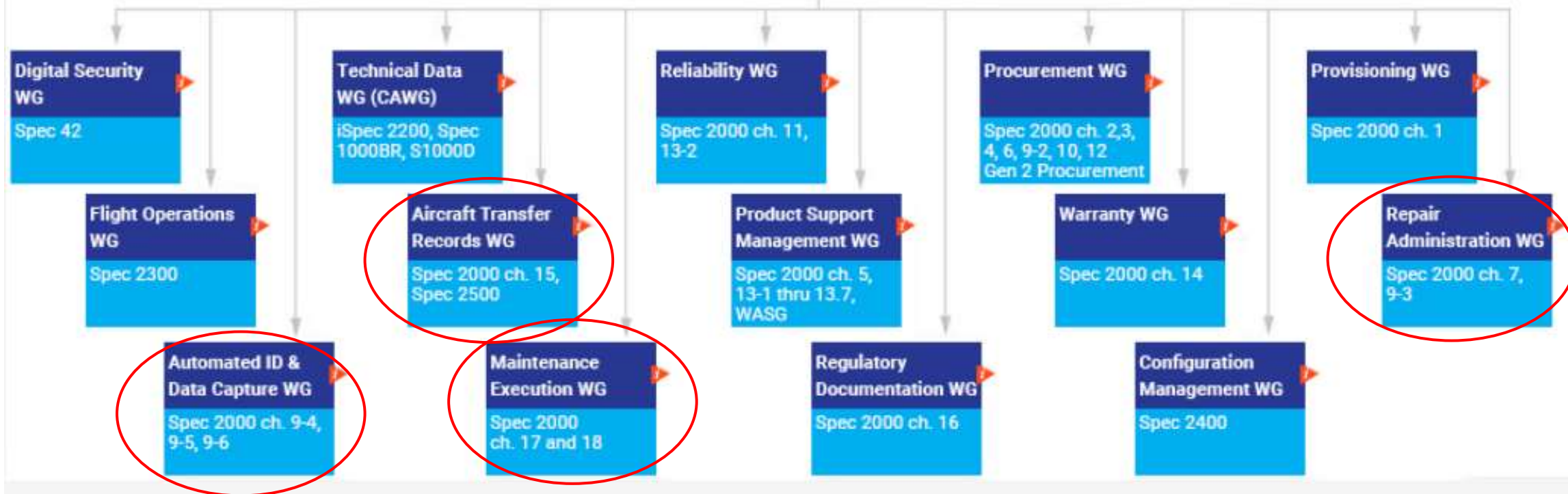
Functional Scope

Typical ATA e-Biz Standard?

- **Describes content for business information exchange often for specific use cases**
  - Part numbers, dates, procedures, conditions, etc.

- **Describes the "business rules" for a function**
  - Information that must always be provided
  - information that must be provided if certain conditions exist
  - Information that may be provided
  - Uses CSDD to define fields to minimize misuse

- **Describes the structure/ formats**
  - XML, flat file, CSV, etc.
  - Messages (PO), Large Files (Provisioning, IPC, AMM, etc), ID data (bar-code, RFID, etc.)

Working Groups

e-Business Steering Group

- **Digital Security WG**
  Spec 42
- **Flight Operations WG**
  Spec 2300
- **Automated ID & Data Capture WG**
  Spec 2000 ch. 9-4, 9-5, 9-6
- **Technical Data WG (CAWG)**
  iSpec 2200, Spec 1000BR, S1000D
- **Aircraft Transfer Records WG**
  Spec 2000 ch. 15, Spec 2500
- **Maintenance Execution WG**
  Spec 2000 ch. 17 and 18
- **Reliability WG**
  Spec 2000 ch. 11, 13-2
- **Product Support Management WG**
  Spec 2000 ch. 5, 13-1 thru 13.7, WASG
- **Regulatory Documentation WG**
  Spec 2000 ch. 16
- **Procurement WG**
  Spec 2000 ch. 2,3, 4, 6, 9-2, 10, 12 Gen 2 Procurement
- **Warranty WG**
  Spec 2000 ch. 14
- **Configuration Management WG**
  Spec 2400
- **Provisioning WG**
  Spec 2000 ch. 1
- **Repair Administration WG**
  Spec 2000 ch. 7, 9-3

Spec 2500 – Aircraft Transfer Records

- Provides an XML CRATE which allows metadata to be applied to all major records which are exchanged during major asset exchanges (Aircraft, Engines, APU, Landing Gears)

  - Aligns with ICAO 9760, IATA Lease Return Guidelines

  - Facilitates more standardized approach to a fully electronic aircraft transfer or lease return

  - Two primary use cases: Transfer of historic operational and maintenance records, as well as transfer of current status

  - Can be used not only for aircraft, but for engines, APU's, Landing Gears

Spec 2500 – Aircraft Transfer Records

- Also provides current status reports of all major tracked activity. This facilitates entry into receiving operator's M&E IT systems
  - AD Status
  - Installed Component Status
  - Repair / Damage Status
  - Last Done / Next Due Maintenance Status
  - SB / Modification / STC Status
  - Asset Status
  - Major Event List (transitions, maintenance events, lessor review, etc.)

Spec 2500 – Aircraft Transfer Records

- New Revision to be released soon
  - Changes to address issues found during initial implementation activities
  - Addition of major event list (e.g. inspections, maintenance events, etc.)
- Soon to follow
  - Full Life Limited Part (LLP) History (all removals, installs, change in operations)
  - Daily Flight Summary
  - Possible restructure XML to facilitate easier conversion to JSON
  - Begin development of Component "Passport" / Back to Birth traceability
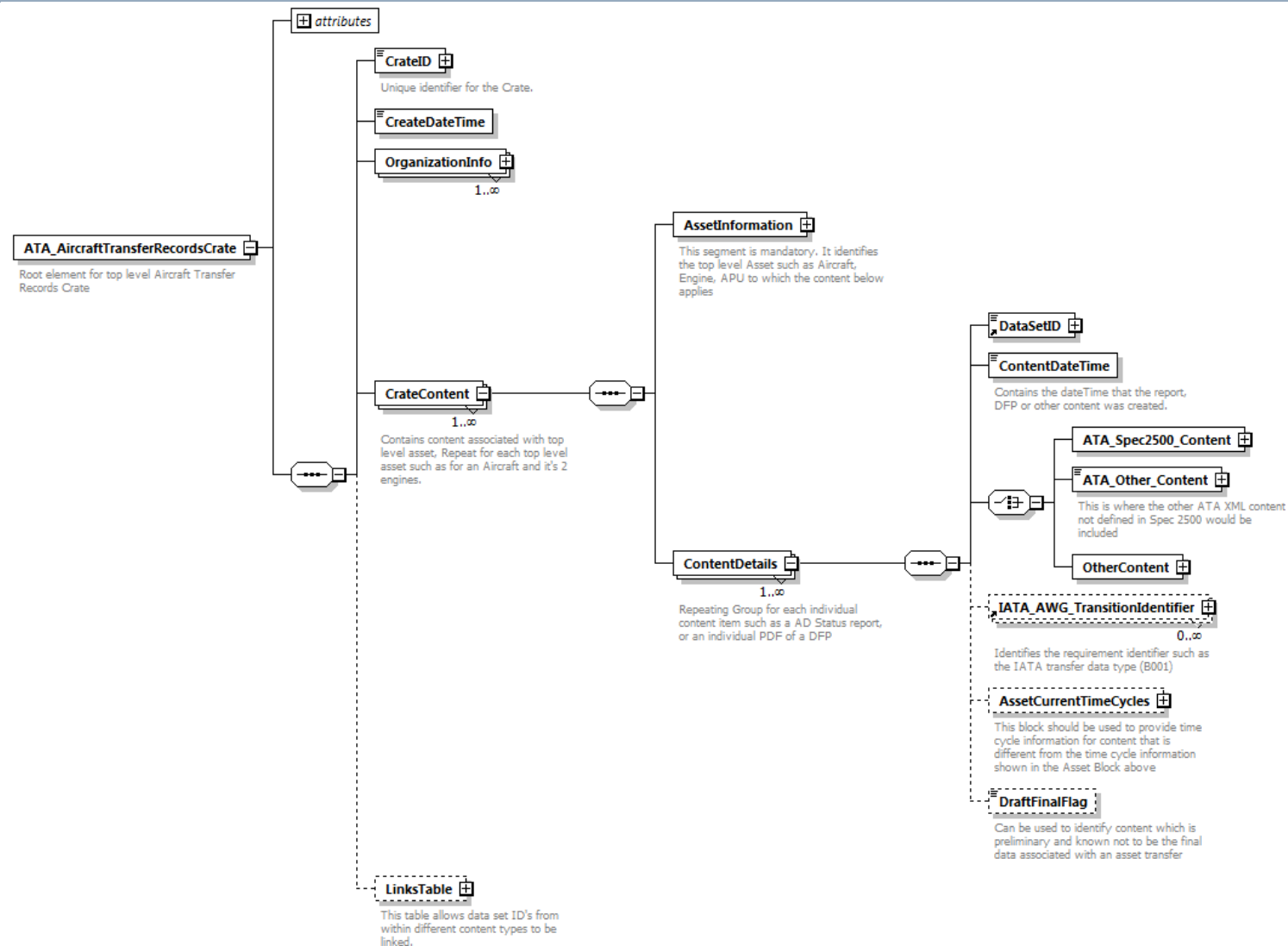
Spec 2500

- Aircraft Transfer Records

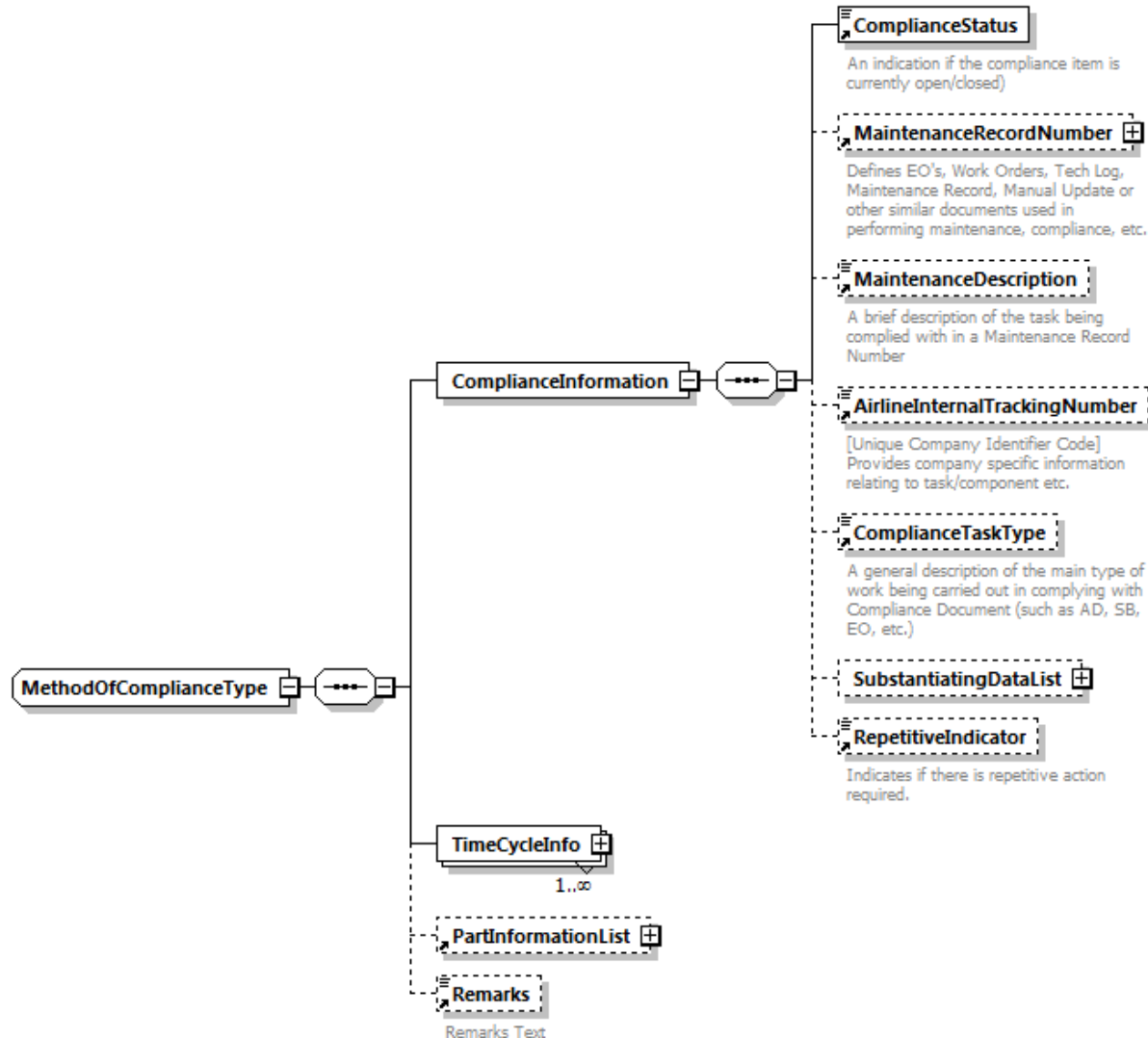- Multiple Use Cases with different implementations

Spec 2500 Excerpt - Crate

Spec 2500 Excerpt - MOC

Sample XML

```xml
ATA_AircraftTransferRecordsCrate …..\Schemas\ATA_AircraftTransferRecordsCrate.xsd">
<CrateID source="Asset Management System">EX3</CrateID>
<CreateDateTime>2016-09-15T00:00:00Z</CreateDateTime>
<OrganizationInfo>
<OrganizationName>ABC Airlines</OrganizationName>
<OrganizationCode OrganizationCodeType="CAGE">12345</OrganizationCode>
<OrganizationalRole>Lessee</OrganizationalRole>
<ContactName Role="Deliveries">
<Name>John Smith</Name>
<PostalAddress>
<AddressLine>ABC House</AddressLine>
<AddressLine>Gatwick Park</AddressLine>
<AddressLine>London Road</AddressLine>
<City>Crawley</City>
<Municipality>West Sussex</Municipality>
<State></State>
<PostalCode>RH10 9UY</PostalCode>
<Country>United Kingdom</Country>
</PostalAddress>
<Email>john.smith@aviation.com</Email>
<Phone>+441234123123</Phone>
</ContactName>…
```

Sample XML


```xml
<MethodOfCompliance>
    <ComplianceInformation>
        <ComplianceStatus>Open</ComplianceStatus>
        <MaintenanceRecordNumber>
            <DocumentNumber>EO 32-12345R1</DocumentNumber>
            <DataSetID source="Maintenance System">AD5</DataSetID>
            <TypeOfDocument>EO</TypeOfDocument>
            <CAGE_Code>9V238</CAGE_Code>
            <Company>American Airlines</Company>
            <Model>767-300</Model>
        </MaintenanceRecordNumber>
        <MaintenanceDescription>Replace the aft pressure bulkhead at Station 1582 of Section 48 wi
aft pressure bulkhead, and perform all applicable related investigative and corrective actions, in accordance with the
Instructions of Boeing Alert Service Bulletin 767-1B1234, Revision 1, dated August 4, 2016</MaintenanceDescription>
        <AirlineInternalTrackingNumber>27-987876-33</AirlineInternalTrackingNumber>
        <ComplianceTaskType>Part Replacement</ComplianceTaskType>
        <SubstantiatingDataList>
            <SubstantiatingData>
                <DocumentNumber>XB101</DocumentNumber>
                <DataSetID source="20-05-2015">AD6</DataSetID>
                <TypeOfDocument>SB</TypeOfDocument>
                <CAGE_Code>81205</CAGE_Code>
                <Company>Boeing</Company>
                <Model>767-300</Model>
                <RevisionNum>13</RevisionNum>
                <RevisionDate>2016-08-14</RevisionDate>
            </SubstantiatingData>
        </SubstantiatingDataList>
        <RepetitiveIndicator>true</RepetitiveIndicator>
    </ComplianceInformation>
    <TimeCycleInfo>
        <Threshold EarlierLaterOf="LaterOf">
            <TimeCycleList>
                <TimeCycleDetails>
                    <Date>2020-07-20T00:00:00Z</Date>
                </TimeCycleDetails>
            </TimeCycleList>
            <TimeCycleList>
                <TimeCycleDetails>
                    <Cycles>20000</Cycles>
```

AD Compliance is Open

Ref to Substantiating SB

Due before 20,000 Cycles

13

Same XML rendered in html

ATA Spec2500 Content			ATA_AD_Status	
AD Status for Aircraft Serial Number: 30999				
ATA_AD_Status Schema Version: 0				
AD Item 1 of 3 - AD Number: 2016-25-07				
Regulatory Authority	FAA			
AD Number	2016-25-07			
DatasetID / Source	AD1 / Asset Management System			
AD Title	This AD was prompted by an evaluation by the design approval holder (DAH) indicating that the aft pressure bulkhead at Station 1582 is subject to widespread fatigue damage (WF			
Effective Date	2017-02-07			
Product Type	Airframe			
FAA Amendment Number	39-18733			

Related ADs	**Authority**	**AD Number**	**Data Set ID / Source**
	FAA	2004-05-16	AD2 / Asset Management System
	FAA	2004-14-19	AD3 / Asset Management System
	FAA	2009-06-19	AD4 / Asset Management System

Supersedes ADs	**Authority**	**AD Number**	**Data Set ID / Source**
	FAA	2004-05-16	AD2A / Asset Management System

AD Remarks	Example of a paragraph-based AD
AD Status	Open
AMOC Flag	false

	Paragraph Reference	2016-25-07 PAR (G)
	Paragraph Status	Open
	Compliance Task Type	Inspection
	Paragraph Description	To detect and correct discrepancies in the aft attach lugs of the elevator tab control mechanism group 1 a/c
	Paragraph Remarks	Note also requirement for paragraph H

14

■ **Other Opportunities for digitalization using ATA e-Business Specifications**

Blue – recent / current activity

Spec 2000 Specifications

- **Work Package (ch. 18)**
  - Electronic Information exchange between Operator maintenance systems and MRO Systems
  - Work Scope, Work Packages, Work Orders
  - Related Tasks, Jobs, Steps
  - Response from MRO on work accomplished, Findings, new Work Orders raised, Deferrals
  - Summary of work accomplished / Maintenance Release
  - Major Update in Fall 2022 updating to include full transactional capability
  - Continue work on "Executable Task" definition. Hope to have a full face-to-face workshop early 2023

Spec 2000 Specifications

- **Component Repair Management**
  - Repair Order Management, Invoicing, Teardown (ch. 7)
  - Updating to develop XML messages and adapt to newest business practices
  - Expect to issue first version in late 2022 (Repair Order, Repair Order Status, Updated Shipping Notification, Material Receipt)
- **Electronic Airworthiness Release Certificate (ch. 16)**
  - FAA 8130-3, EASA Form 1, Transport Canada Form 1, CASA Form 1

Spec 2000 Specifications

- **Electronic Logbook (ch. 17)**
  - Information exchange between Electronic Logbook Systems and Maintenance Systems
  - Includes Flight and Journey Logs
  - Maintenance Logs (Squawks, Defects, etc.)
  - Maintenance Actions (Closing defects, part replacement, maint release, etc.)
  - Service, Fueling Logs
  - Minor update in Fall 2022 - version 5.1

Spec 2000 Specifications

- Automated Identification & RFID (ch. 9)
  - Bar-coded shipping/receiving labels
  - Permanent parts ID (bar-code, data matrix)
  - RFID on parts
  - Part Traceability
  - 2022 version coming soon
    - RFID shipping labels
    - Updated to better align part marking with RFID, update symbology usage

Questions

ATA e-Business Program

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■ Other ATA e-Business Specifications

For a full overview of ATA e-Business Specifications, see Link to June Conference Overview