AIA /ATA/ ASD
S1000D Users Forum

"S1000D: Realizing the Benefits of Integrated Logistics Support"

October 12- October 15, 2009
Crown Plaza Hilton Head Resort, Hilton Head, SC, USA

Civil Aviation Working Group – Status and Future

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Airbus

AeroSpace and Defence Industries Association of Europe

AEROSPACE INDUSTRIES ASSOCIATION

Air Transport Association

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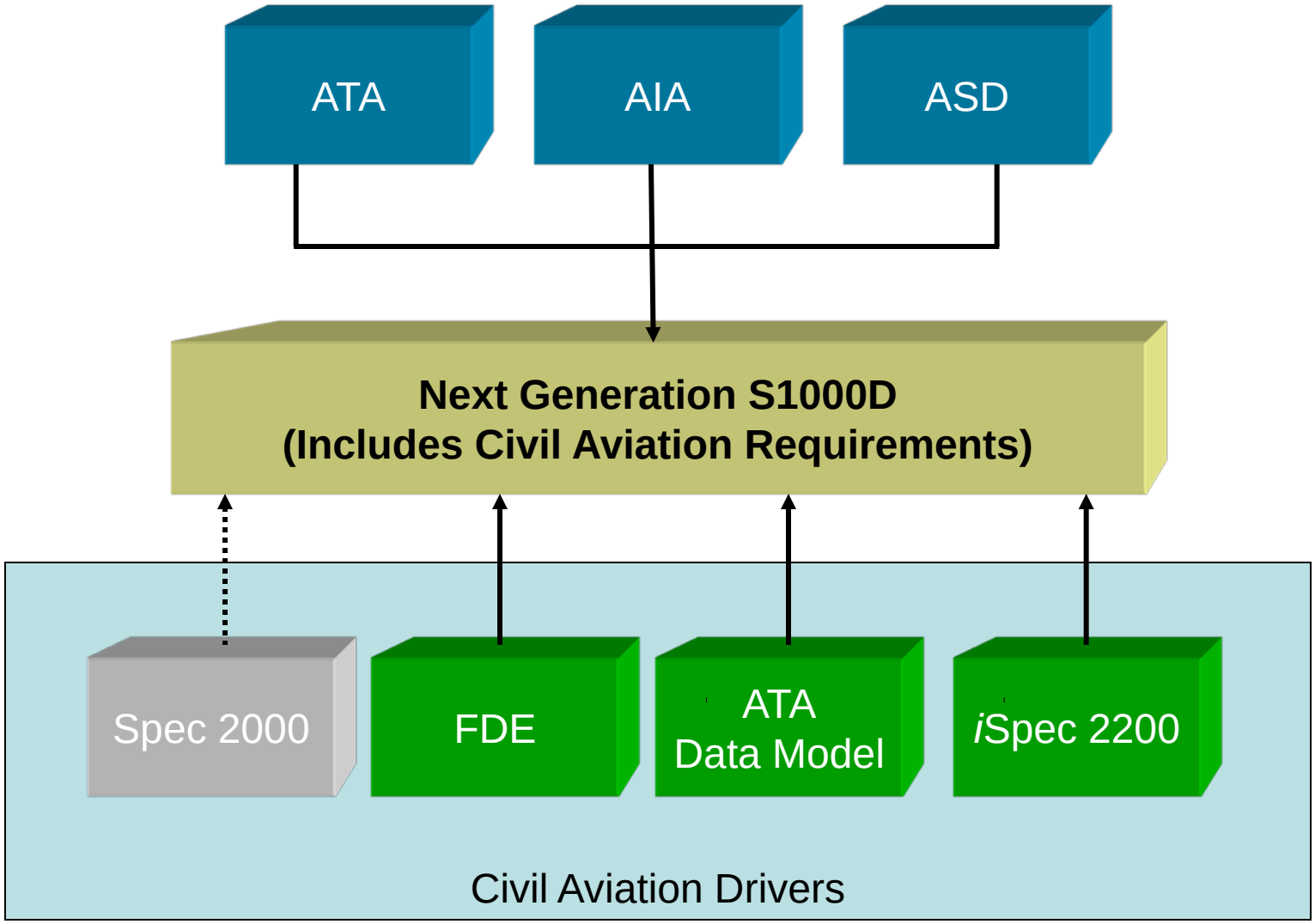
ATA Objectives



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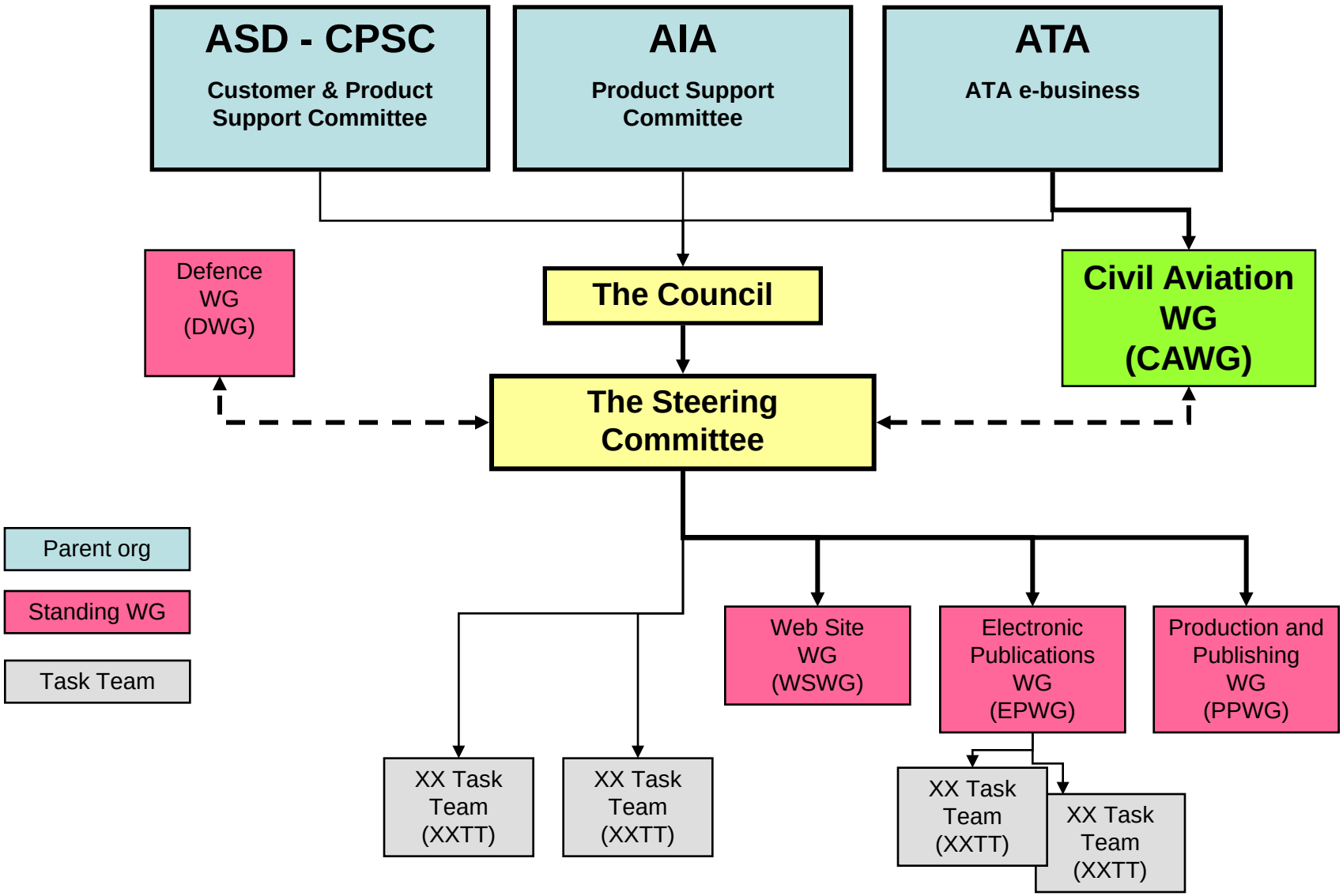
CAWG Charter and Organization

- The ATA Civil Aviation Working Group (CAWG) is one of the ATA e-Business Integration Working Groups and is administered by the ATA. CAWG reports to the ATA e-Business Steering Group (ESG) and indirectly to the ASD/AIA/ATA S1000D Steering Committee (SC).
- The purpose of the CAWG is to analyze and submit the necessary changes to enable S1000D to be the world-wide accepted future Technical Data exchange standard for the Civil Aviation industry.
- The scope of the CAWG activity includes the scope of ATA *i*Spec 2200, excluding Flight Operations. The CAWG activity considers previous work done on ATA *i*Spec 2200 DTDs, ATA Future Data Exchange (FDE) and the ATA Data Model.

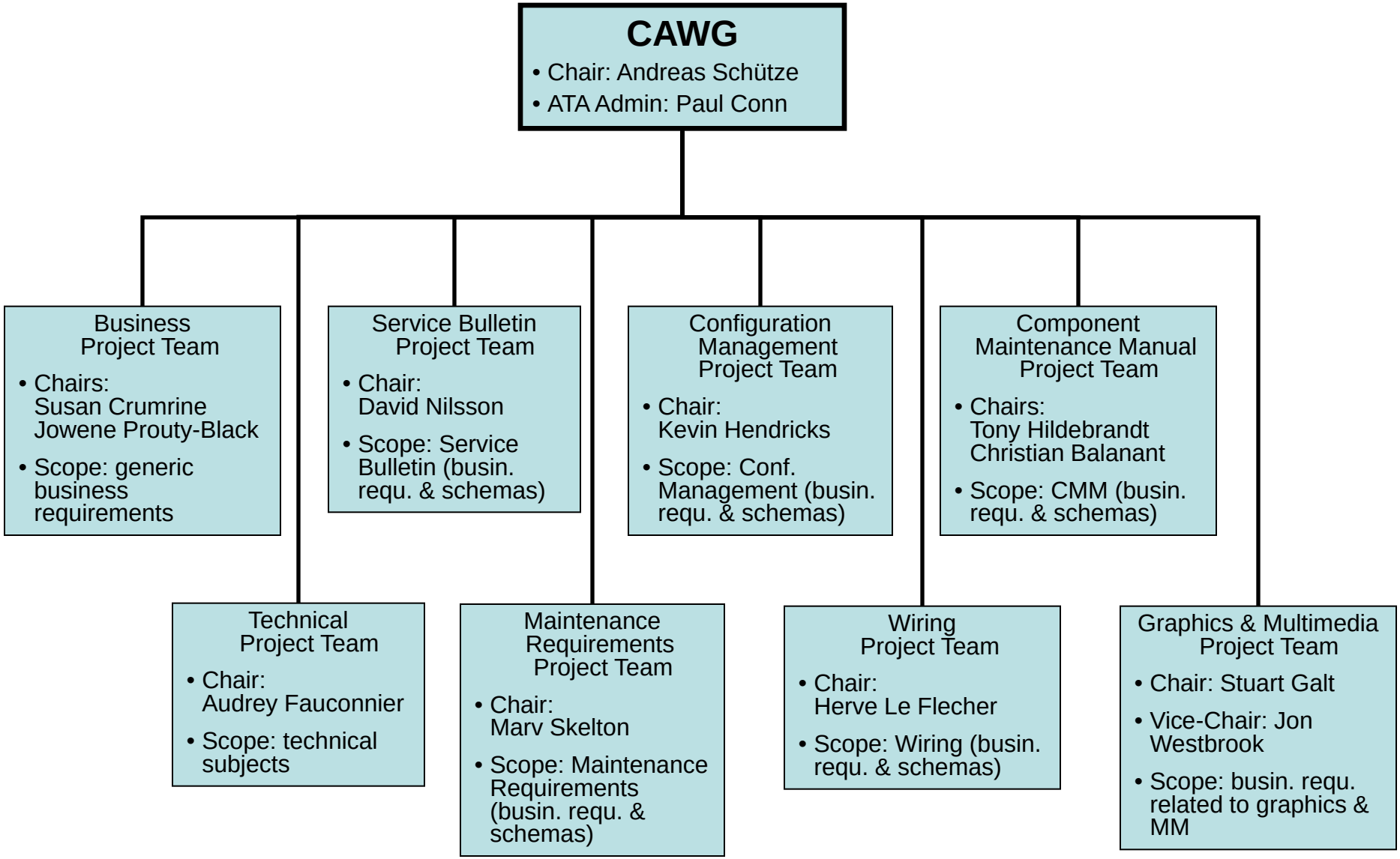
CAWG Charter and Organization

- The responsibilities of the CAWG are:
  - To conduct a comprehensive analysis of similarities and differences between S1000D and ATA *i*Spec 2200 / ATA Data Model / Future Data Exchange (FDE) requirements
  - To reach consensus within the global civil aviation community on proposed changes to S1000D.
  - To introduce proposals from the global civil aviation community for modifications to S1000D to meet civil aviation requirements.
  - To facilitate acceptance of civil aviation requirements within the S1000D change proposal process and committees.
  - Within S1000D, many requirements are project-specific. CAWG will develop and maintain an ATA specification describing the civil aviation business rules for implementation of S1000D (civil aviation industry to be understood as a “project” in the sense of S1000D).
- The final result of the CAWG activity must be a well-defined and accepted subset of S1000D and civil aviation business rules to allow this new exchange standard to be used in a consistent manner throughout the civil aviation industry for creation, exchange and processing of Technical Data.

CAWG Charter and Organization



CAWG Charter and Organization



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Purpose of Civil Aviation Data Exchange Standards

“Consultation” solutions

IETP

PDF

“Consultation only” airlines

Manufacturer

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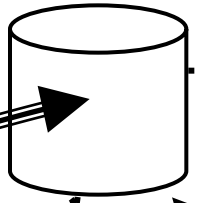
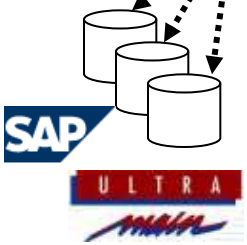


Consultation



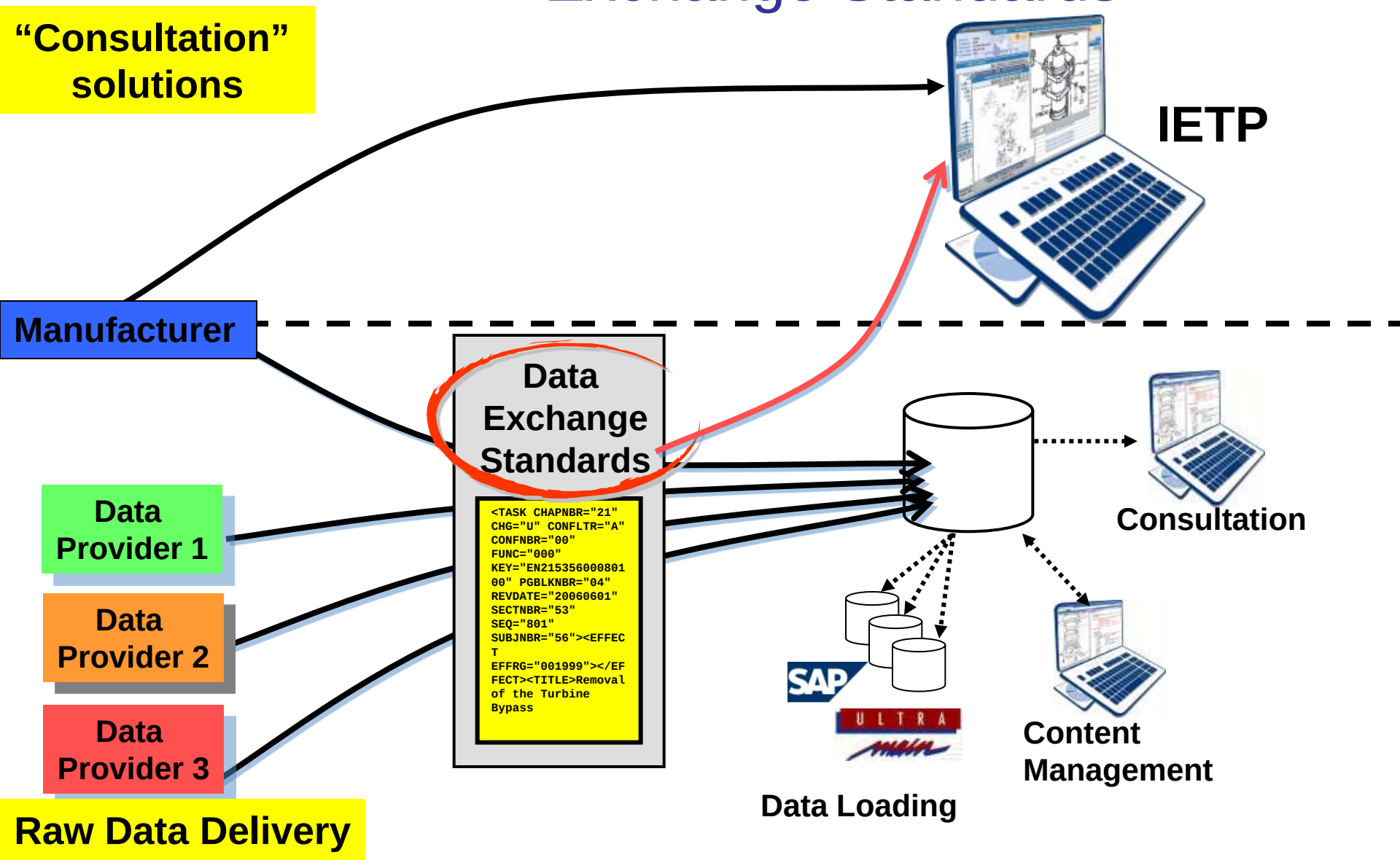
Data Loading

Content Management

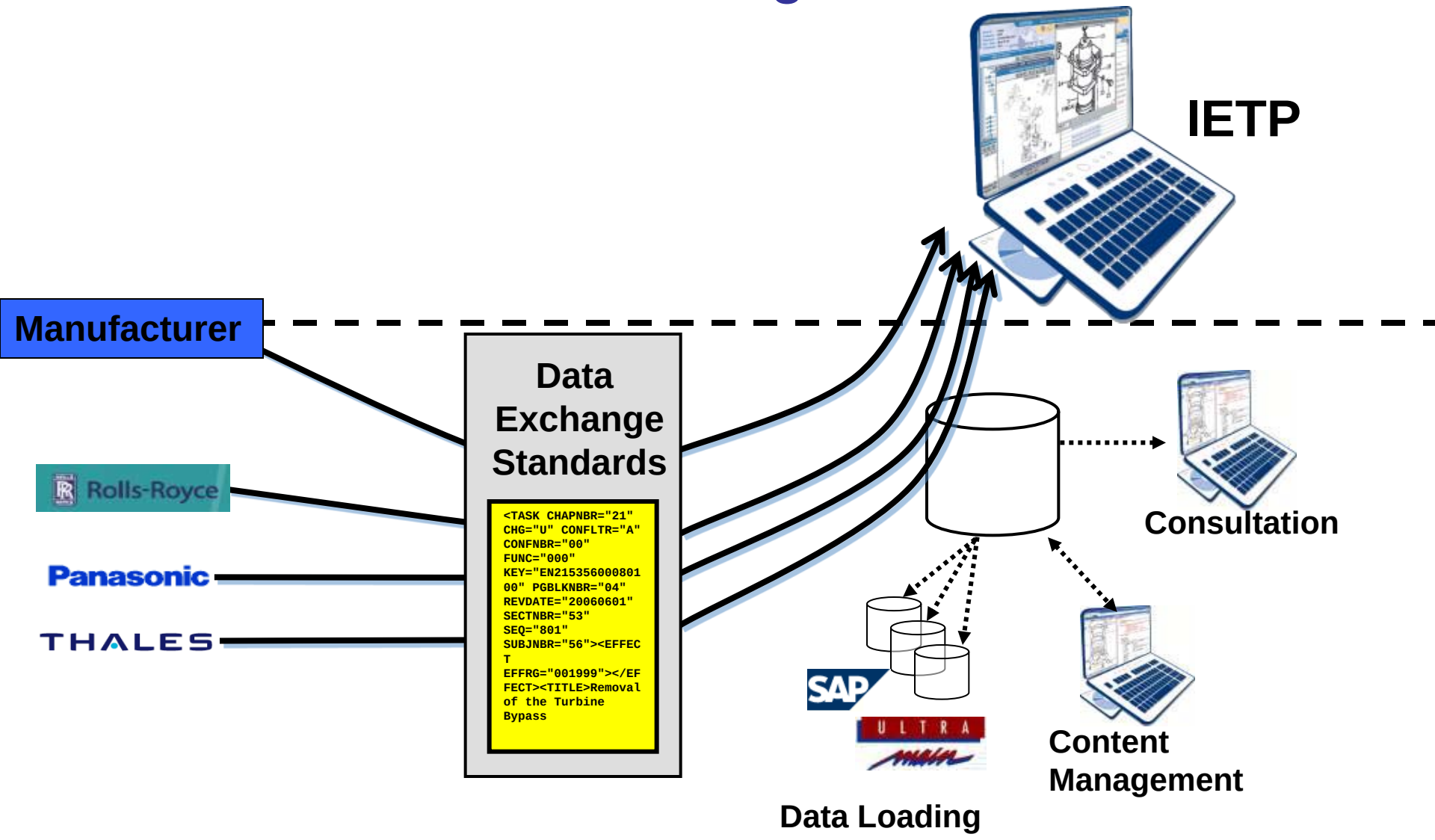
“Data processing” airlines

Raw Data Delivery

Purpose of Civil Aviation Data Exchange Standards



Purpose of Civil Aviation Data Exchange Standards



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Civil Aviation Specifics: Lifecycle Support

- TD (Technical Data) support during lifecycle of 50 years including:
  - Fleet upgrades (modifications, conversions)
  - Changing regulatory requirements etc.
- Requires follow-up of as-maintained configuration through reporting from airlines

➔ Induces complex requirements related to Applicability, Configuration Reporting, Service Bulletins

➔ Standards should be as stable as possible
→ downwards compatibility

Civil Aviation Specifics: Support of Multiple Aircraft Programs - OEM

- Same TD systems are used to support “old” and “new” data exchange standards for out-of-production, in-production and future A/C programs
- Migration to new standard versions must be possible (consistency, system cost) which sometimes requires data migration
- Internal systems (TD authoring and production) are designed to be independent of standards

➔ Standards should be as stable as possible
→ downwards compatibility

Civil Aviation Specifics: Support of Multiple Aircraft Programs - Airline

- The same airline engineers & mechanics use TD of multiple programs from different OEMs.
- Current TD is *i*Spec 2200 based. Future A/C programs will be in S1000D.

➔ TD Business content structure and presentation should stay the same or very similar to support the transition, e.g. rich Job Setup info, semantic tagging

Civil Aviation Specifics: Data Exchange Process

- Future data delivery will be:
  - on-line for download (for new A/C programs this will be the prime delivery channel)
  - for loading on-board of the aircraft
- This implies keeping the amount of data (to be exchanged) as small as possible to reduce download or loading time

➔ Requirement for incremental update of Technical Information Repositories (TIR) and externalization of applicability

Civil Aviation Specifics: Data Processing by Airlines

- Requires features within the standard that may be not necessary (or may even be disturbing) in case of use for publication only:
  - Consistency in data definitions and structures for all civil aviation S1000D projects → civil aviation business rules
  - Avoidance of data redundancy introduced by the TIR concept
  - Precise semantic data tagging to be able e.g. to load data into databases or develop specific functions in IETMs like links to A/C systems
  - Incremental update to ease revision management (if not, increment has to be produced by airline before data processing)

Contents

Integration of Civil Aviation Requirements into S1000D

2013
2012
2011
2010
2007
2006
2005

TIR Enhancements
incremental update
applic externalization
Supply TIR,
Documentary Info TIR …
Container-Alternate extens.
IC and SNS extensions
Multimedia enhancements
Generic IPD
Service Bulletin enhancem.
CMM enhancements
Fault enhancements …

V 4.1

V 3.0

Applicability
Reengineering
COC
Wiring

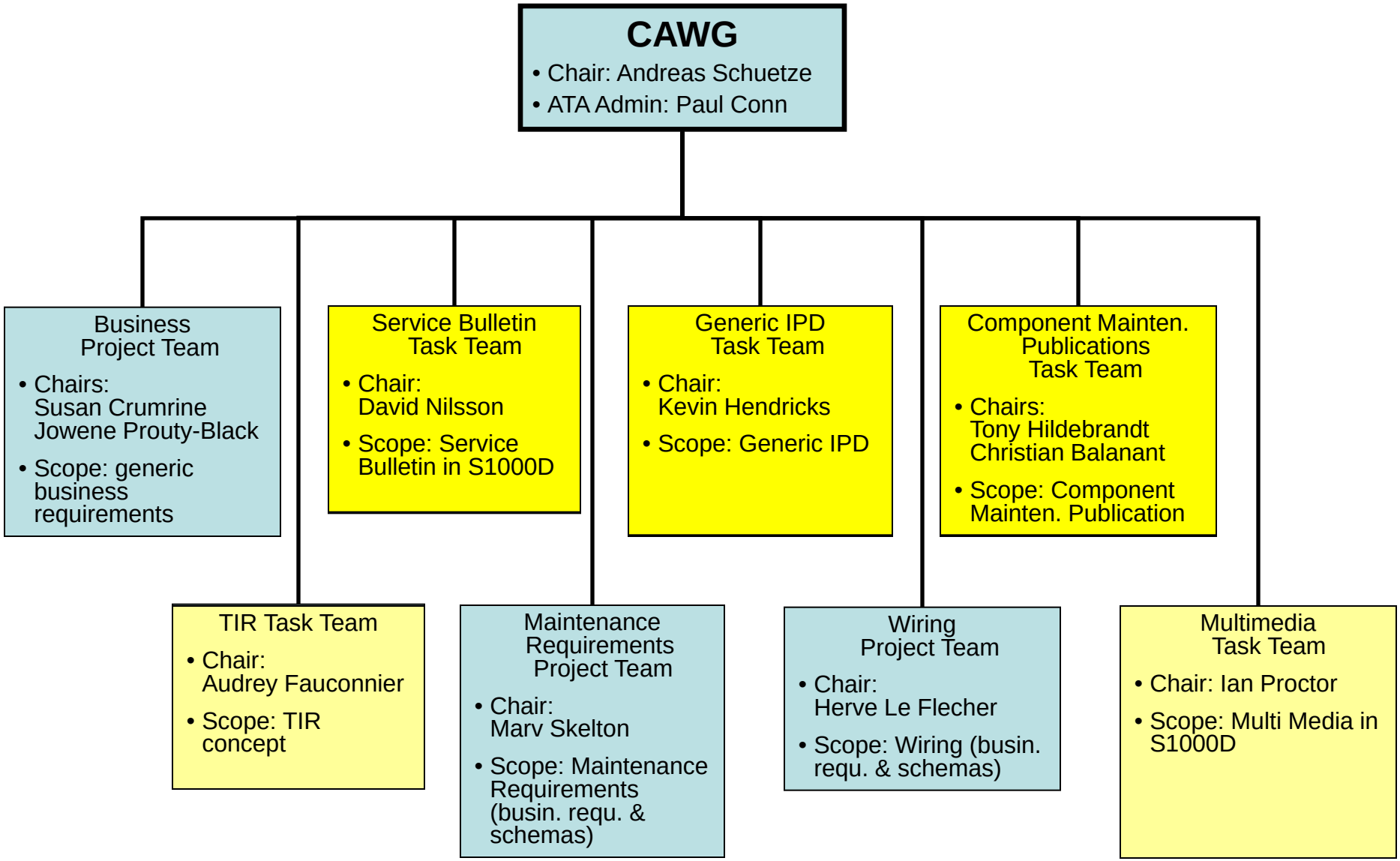
V 2.3

Configuration Management
(Applicability, A/C Table, SB List, …)
Significant Data
Technical Repository
Business (Fault Symptom, Wiring,
Schedule Maintenance, …)

ATA
*i*Spec2200

V 2.2
S1000D

Integration of Civil Aviation Requirements into S1000D



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CAWG Future

- Vast majority of civil aviation requirements implemented in S1000D with issue 4.1
- Next: publication of civil aviation business rules (in accordance with S1000D issue 4.0.1)
- New project: Mapping from *i*Spec 2200 to S1000D
- Ongoing in the future:
  - Maintenance of civil aviation business rules
  - Representation of civil aviation community in S1000D organization