



787 S1000D XML Support Data Implementation

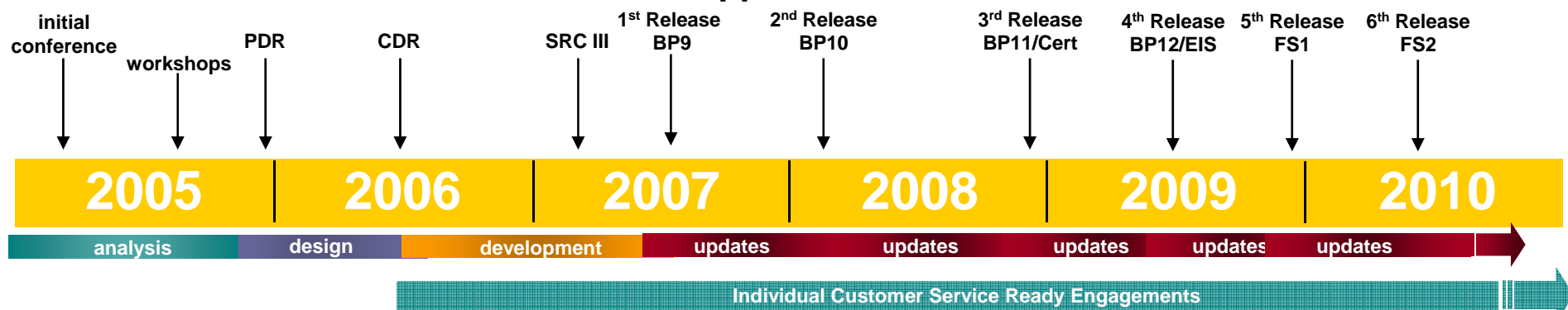
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787 Customer Support Data Requirement Engagement and Development Plan

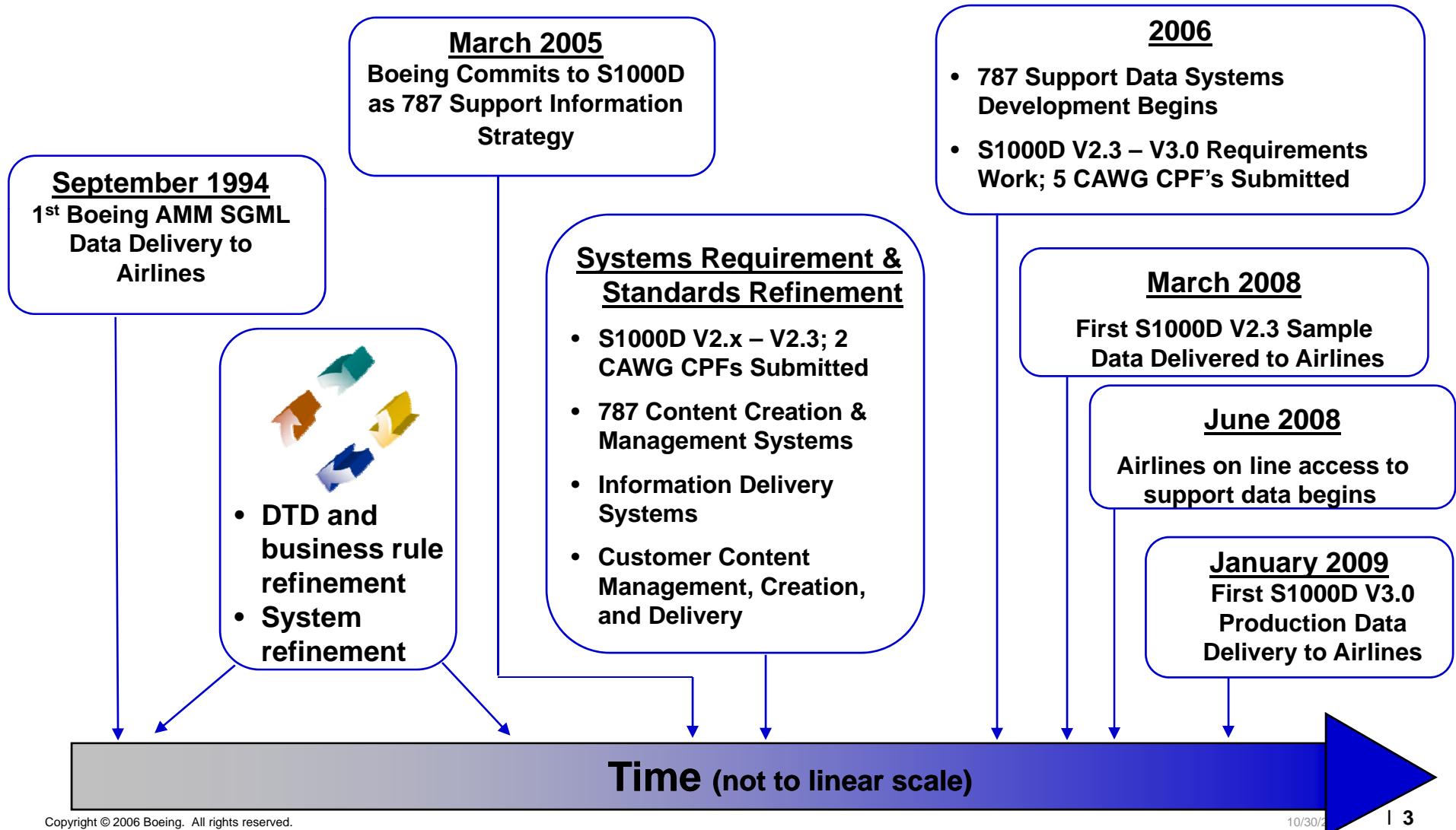
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- ☑ March 2005 – Introduce Major 787 Support Data Concepts at Conference
- ☑ Mid-2005 – Support Data Workshops / Customer Requirements
- ☑ Dec 2005 – Preliminary Design Review (PDR)
- ☑ June 2006 – Critical Design Review (CDR) – Seattle
- ☑ March 2007 – Service Ready Conference III (Seattle)
- ☑ July 2007 – 787 Software Initial Release (internal Boeing access only)
- ☑ March 2008 – 787 Software Flight Test Release
 - December 2008 – 787 Software Certification Release
 - June 2009 – 787 Software EIS Release
 - December 2009 – 787 Software Fleet Support Release
 - June 2010 – 787 Software Fleet Support Release



Commercial Aviation S1000D Implementation Journey

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S1000D Implementation Considerations

OEM and Information Creators

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- **Strategy to best leverage the XML content**
- **System Development**
- **Data exchange testing with information Customers**
- **Training and communication**
- **Separating themselves from the display of the content**
 - **Focus on creating information fragments vs. documents**
 - **Content reuse**
 - **How the information will be used based on the strategy**
- **In our case the information consumers normally include:**
 - **Airline Operations**
 - **Airline Engineering**
 - **Airline Technical Maintenance staff**
 - **Internal OEM Engineering**
 - **Regulatory Agencies**

S1000D Implementation Considerations

Customer Infrastructure and Information Consumer

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- **System Development**
- **Data exchange testing with information providers**
- **How often will the information be revised by the OEM**
- **How often will you release revised information to your user community**
- **Training and communication**
 - **Content can be displayed by calling fragments vs. entire documents that need to be traversed to use needed information**
 - **S1000D is not ATA iSPEC 2200 look and feel**
 - **How the information will be used**

S1000D Implementation Considerations

Regulatory Agencies

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- **In Civil Aviation there are information types that are Approved, those that are Accepted, and those that require no review**
 - **Approved means there is actually a signature on file following a formal review process (e.g. Structural Repair)**
 - **Accepted means information is forwarded to the Regulatory Agency prior to aircraft delivery and certification as demonstrated compliance including the Instructions for Continued Airworthiness requirements**
- **Content management and revision control in S1000D is different than in ATA iSPEC 2200 and a document paradigm**
- **Training, early and often communication is recommended**

787 Information Types in S1000D

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- **Information Targeted:**
- System Description (**AMM part 1**)
- Aircraft Maintenance Procedures (**AMM part 2**)
- Fault Isolation Procedures (**FIM**)
- Structural Repair Data (**SRM**)
- Wiring Diagrams (**WDM**)
- System Schematics (**SSM**)
- Illustrated Parts Data (**IPD/IPC**)
- Service Bulletins (**SB**)

- Maintenance Planning Data and Task Cards in 2010 (**MPD and TC**)

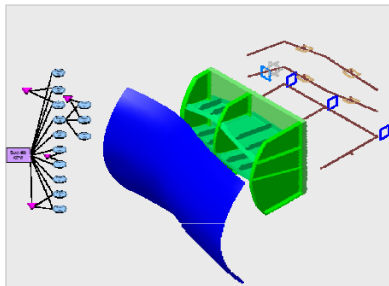
Criteria For Selection:

- Instructions for Continued Airworthiness
- Level of customization
- Frequency of revision
- Volume of data
- Linkage to other manuals
- Available Today in SGML
- S1000D Support

Conclusion

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- **Engagement with constituents is critical – early and often**
- **Being first to deliver has both advantages and disadvantages**
 - **Simultaneous development of final specifications, business rules, OEM systems and Customer systems is risky**
- **One of our earliest challenges was “sample data” to support coding and testing**
 - **Hard to do when the real data doesn't exist**
 - **Generated data for this purpose does not cover all business scenarios in my experience**



Transforming Engineering into Operation and Support Information

Questions ?

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