S1000D User Forum 2010

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Track1: ILS implementation and experience

S2000M - Overview

by

Peter Zimmermann

Cassidian Air Systems, Customer Support

(on behalf of the S2000M MCG Industry co-chair Karl-Heinz Haerdtl)

AeroSpace and Defence Industries Association of Europe

AEROSPACE INDUSTRIES ASSOCIATION

Content

1. Aim and structure of S2000M
2. S2000M within the ILS concept
3. What's next

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S2000M Materiel Management

- S2000M defines the Materiel Management processes and procedures to be used in support of any military product
  - Although this specification is designed for military product support, it may nevertheless be used for the support of any non-military product

- S2000M describes the business relationship between Industry and Customer by providing the process flow, the relevant transactions and data elements used for the Materiel Management

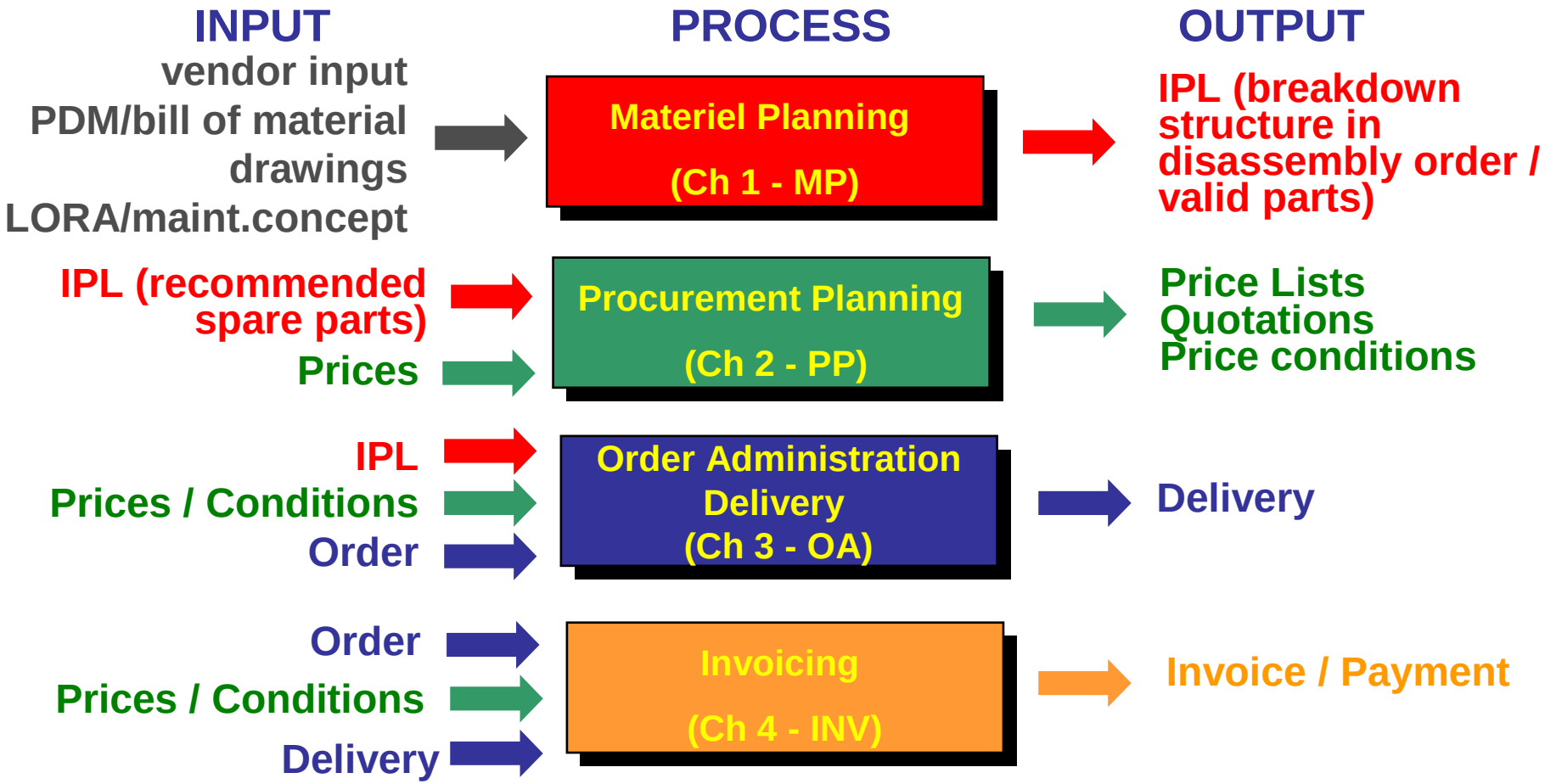
S2000M Materiel Management

S2000M is organized into basic chapters:

- Chapter 1: Provisioning - General
- Chapter 2: Pricing
- Chapter 3: Order Administration
- Chapter 4: Invoicing
- …

S2000M Materiel Management

S2000M Information Flow



- Chapter 1: (MP) Provisioning - General

  Provisioning is the process of selecting spares and support items, necessary for the support of any military product

  – The normal method of compiling data will be to present an engineering breakdown in disassembly sequence, identifying all assemblies and their individual components together with other detail parts which cannot be assigned to assemblies, in accordance with their engineering drawings and Bills of Material (BOM). The sequencing of these items will be by use of the **Catalogue Sequence Number** (CSN) and it is this practice which enables the production of the Illustrated Parts Catalog (IPC) from the same data.

  – The engineering breakdown will be to the level which matches the Customer's maintenance plans.

  – In addition to the engineering breakdown, the following will also be listed
  - Raw materials
  - Consumables
  - Repair kits
  - Support equipment, tools and test equipment
  - Shipment/Storage parts
  - Category 1 (special-to-type) containers.

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- Chapter 1: (MP) Provisioning - General (2)
  - This chapter defines how to generate and provide the provisioning information to the Customer
  - It also provides the data base from which Illustrated Parts Catalogues (IPC) or Illustrated Parts Data Publications (IPDP) are produced → S1000D.
  - The Codification processes and information are covered for data exchange between Industry, the National Codification Bureau (NCB) and the Customer
  - The data updating procedure is covered.

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- Chapter 1: (MP) Provisioning - General (3)

The transmissions used for this chapter are:

- CSNIPD - CSN-orientated IP data
- PNOIPD - PN-orientated IP data
- UPIPCO/UPIPCT - Updating of IP data
- CORIPD - Correction of IP data
- RESIPD – Restatement of IP data
- OBSINF – Observations
- CODREQ – Codification request

S2000M Materiel Management

Chapter 2, 3 and 4 are providing the features for material supply

- <u>Chapter 2: (PP) Pricing</u>

  This chapter defines methods for Industry to provide pricing information on parts to the Customer
  - via Price list
  - via a quotation process
  - via order based pricing
  - also national pricing regulations are covered (provisional prices / fixed prices)

- Chapter 3: (OA) Order Administration
  Order Administration covers the process of order placement, and the flow of information concerning the progress of orders and deliveries
  - Order placement
    - for spares, support equipment, mod sets, repair or other services
  - Order response (acceptance / rejection)
  - Order change (by Customer or Contractor)
  - Change response
  - Delivery information
  - Delivery response
  - Hastening

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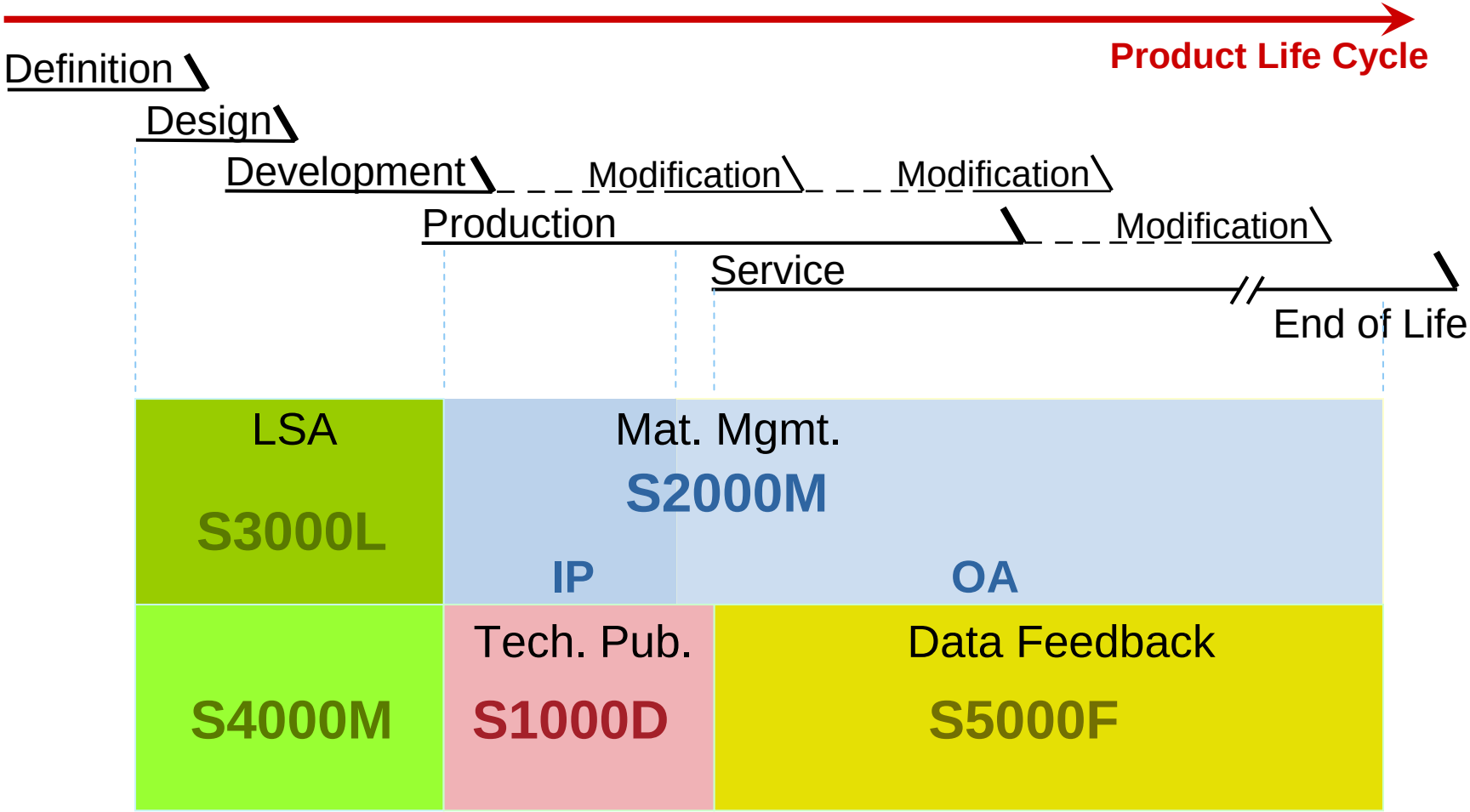
- Chapter 4: (INV) Invoicing
  Invoicing provides a standard process of transmitting invoice data and invoice status between Contractor and Customer

- National pricing regulations require
  - Provisional invoicing
  - Final invoicing
  - Invoice adjustment

- Invoice types for
  - claim for payment
  - for validation only
  - summary invoice claim

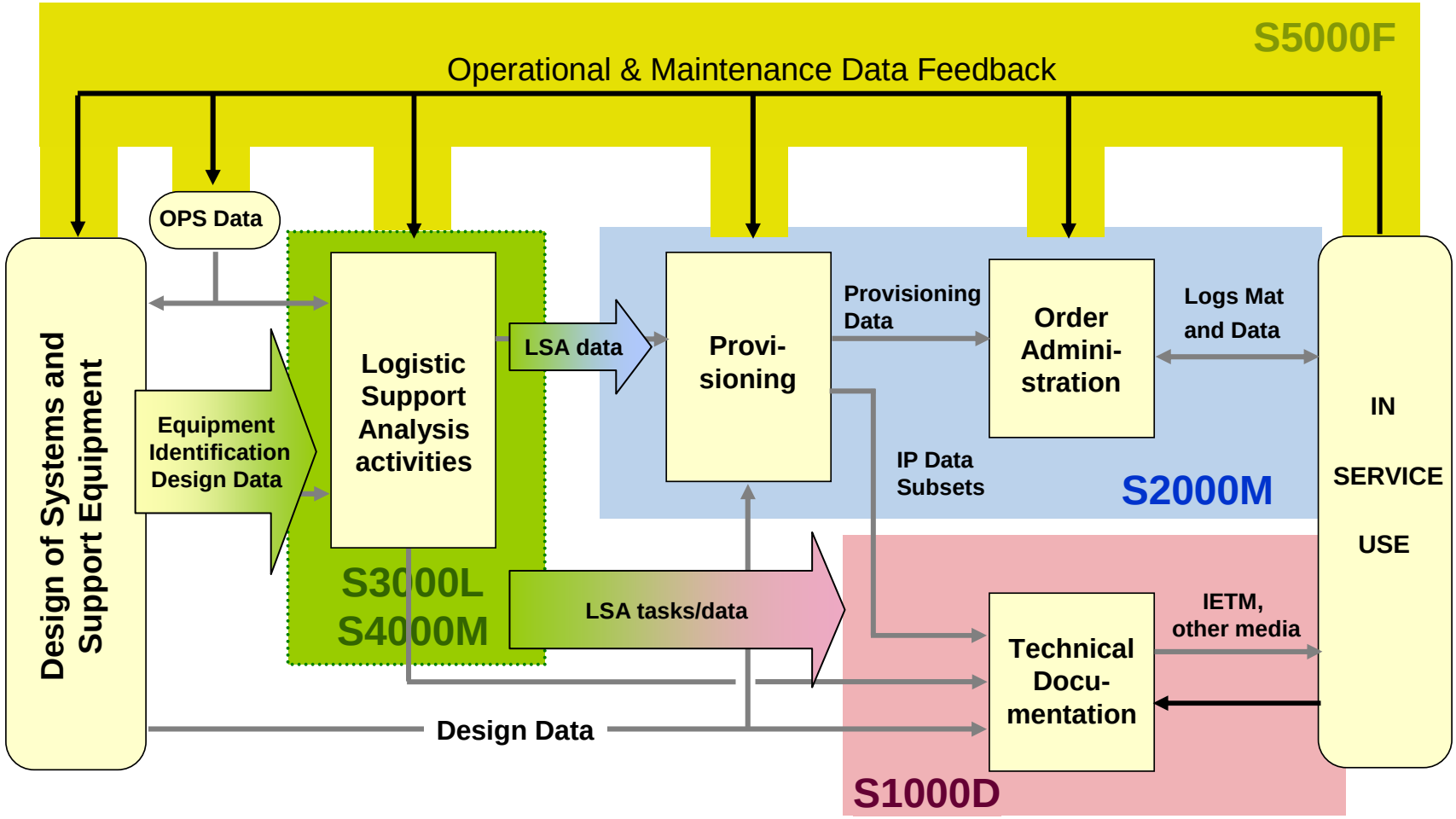
S2000M Materiel Management

Integration of S2000M in the ILS concept

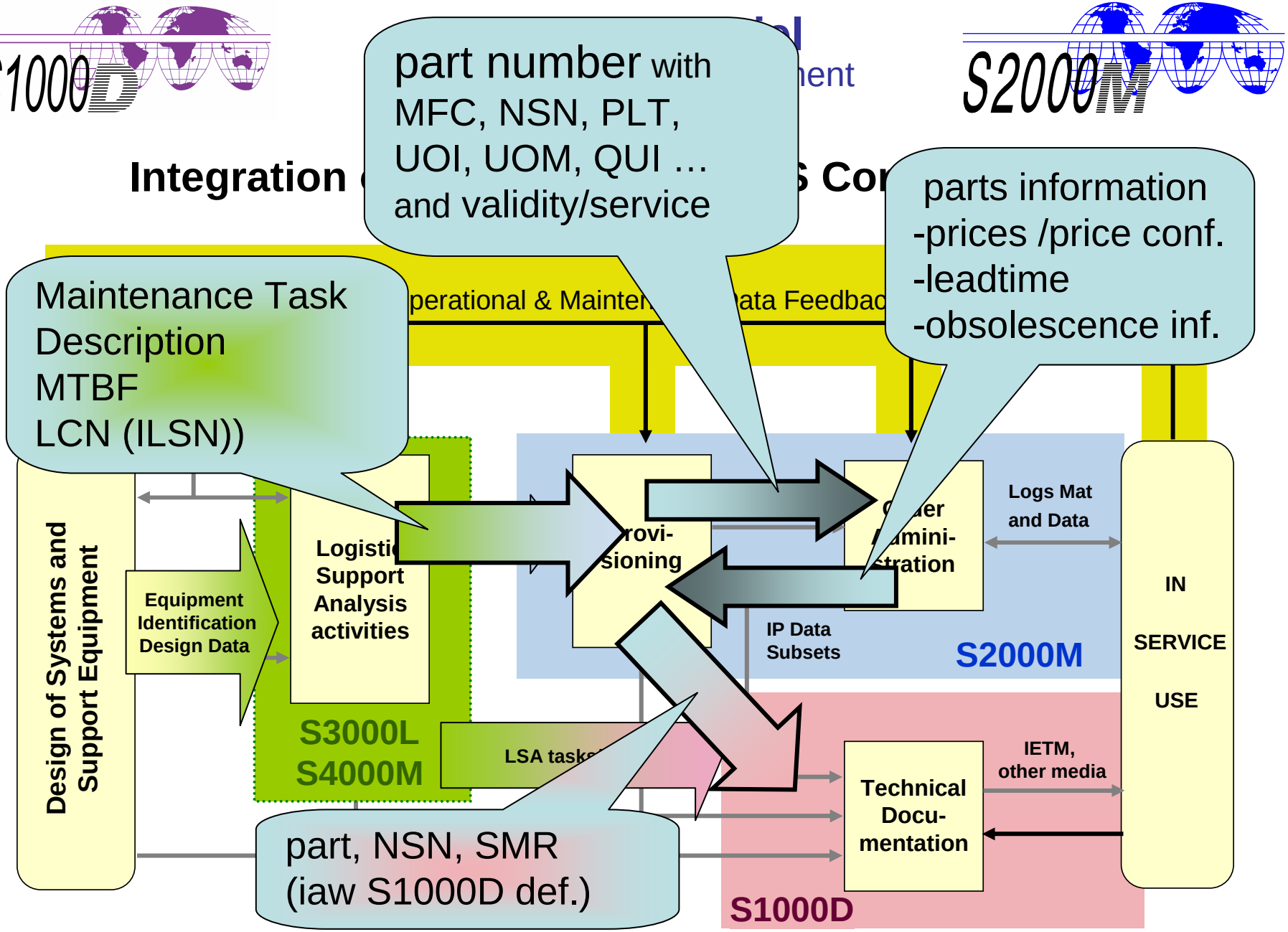


S2000M Materiel Management

Integration of S2000M in the ILS concept (cont.)

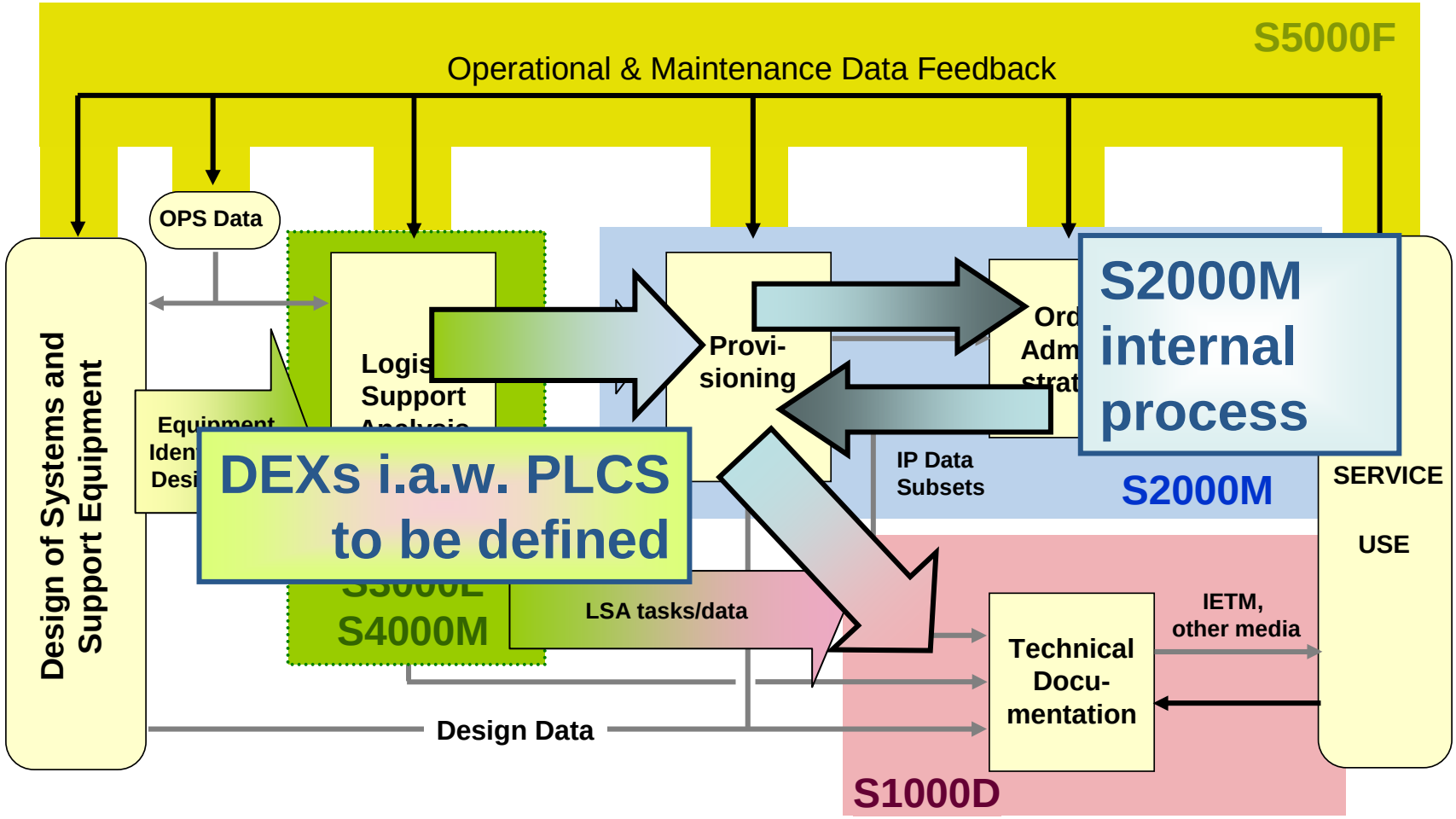


Integration



S2000M Materiel Management

Integration of S2000M in the ILS concept (cont.)



Next S2000M steps regarding ILS integration

- The S2000M PLCS Task Team (PLCSTT) already met three times this year in order to
  - get harmonization between S1000D, S2000M and S3000L in terms of integrated data modeling using UML
  - create PLCS DEXes required to exchange data from/to S2000M - S3000L - S2000M, probably by extending DEX1 (A&D) and DEX3 (A&D) as developed by the S1000D Maintenance Task Data Task Team (MTDTT)
    (for S2000M - S1000D probably a new DEX is required to support the generation of S1000D IPD data modules)

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S2000M Materiel Management

- **PLCSTT status**
  - Modeling of initial delivery of provisioning data completed

  Continue with
  - Modeling of provisioning data update and header information
  - Creation of S3000L to S2000M data matrix and business rules (revise Chapter 18 of S3000L)
  - Creation of DEXes
    - Provisioning DEX
    - Extension of DEX1 (A&D) and DEX3 (A&D)
  - Investigation of using commercial spec (BOOST Aero) for material supply
  - Testing of DEXes

- Next meeting: November 2010; More meetings necessary in 2011

Way ahead

- Conversion of the S2000M ASD organization into an S2000M AIA/ASD organization (S2000M MCG → S2000M SC):
  - 2nd ILS-Council (Nov. 2010) is to organize nomination of Steering Committee (SC) members by ASD and AIA
  - S2000M MCG will continue to prepare S2000M issue 5.0 (1st Q 2011)
  - S2000M MCG (ASD) will convert into S2000M SC (ASD + AIA) after 5.0 is issued

- PLCS
  - PLCSTT will continue with PLCS harmonization independent of the S2000M SC setup schedule
  - S2000M “PLCS version” will be published as issue 6.0 (probably not before 2012)
  - From issue 6.0 onwards one common S2000M version will be maintained (no separate traditional and PLCS versions)

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Abbreviations

A&D	Aerospace & Defence
AIA	Aerospace Industries Association of America
ASD	AeroSpace and Defence Industries Association of Europe
CSN	Catalog Sequence Number
DEX	Data EXchange specification
DM	Data Module
DMC	Data Module Code
GIPD	Generic IPD
ILS	Integrated Logistic Support
ILSN	Integrated Logistic Support Number
INV	Invoice
IPC	Illustrated Parts Catalog
IPD	Illustrated Parts Data
IPDP	Illustrated Parts Data Publication
IPL	Initial Provisioning List
IPPN	Initial Provisioning Project Number

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Abbreviations (2)

ISN	Item Sequence Number
LCN	Logistic Control Number
LORA	Level Of Repair Analysis
MCG	Maintenance Coordination Group
MFC	ManuFacturer Code
MP	Material Planning
MTBF	Mean Time Between Failures
MTDTT	Maintenance Task Data Task Team
NCB	National Codification Bureau
NSN	NATO Stock Number
OA	Order Administration
OPS	Operations
PDM	Product Data Management
PLCS	Product Life-Cycle Standard
PLT	Purchasing Lead Time
PP	Procurement Planning

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Abbreviations (3)

QUI	Quantity per Unit of Issue
SC	Steering Committee
SMR	Source Maintenance Recoverability
SNS	Standard Numbering System
TT	Task Team
UML	Unified Modeling Language
UOI	Unit Of Issue
UOM	Unit Of Measure

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Thank you for your attention!

Questions?

Peter Zimmermann, Cassidian Air Systems
Phone: +49-8459-81-80313
Fax: +49-8459-81-80312
Email: peter.e.zimmermann@cassidian.com

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Backup information

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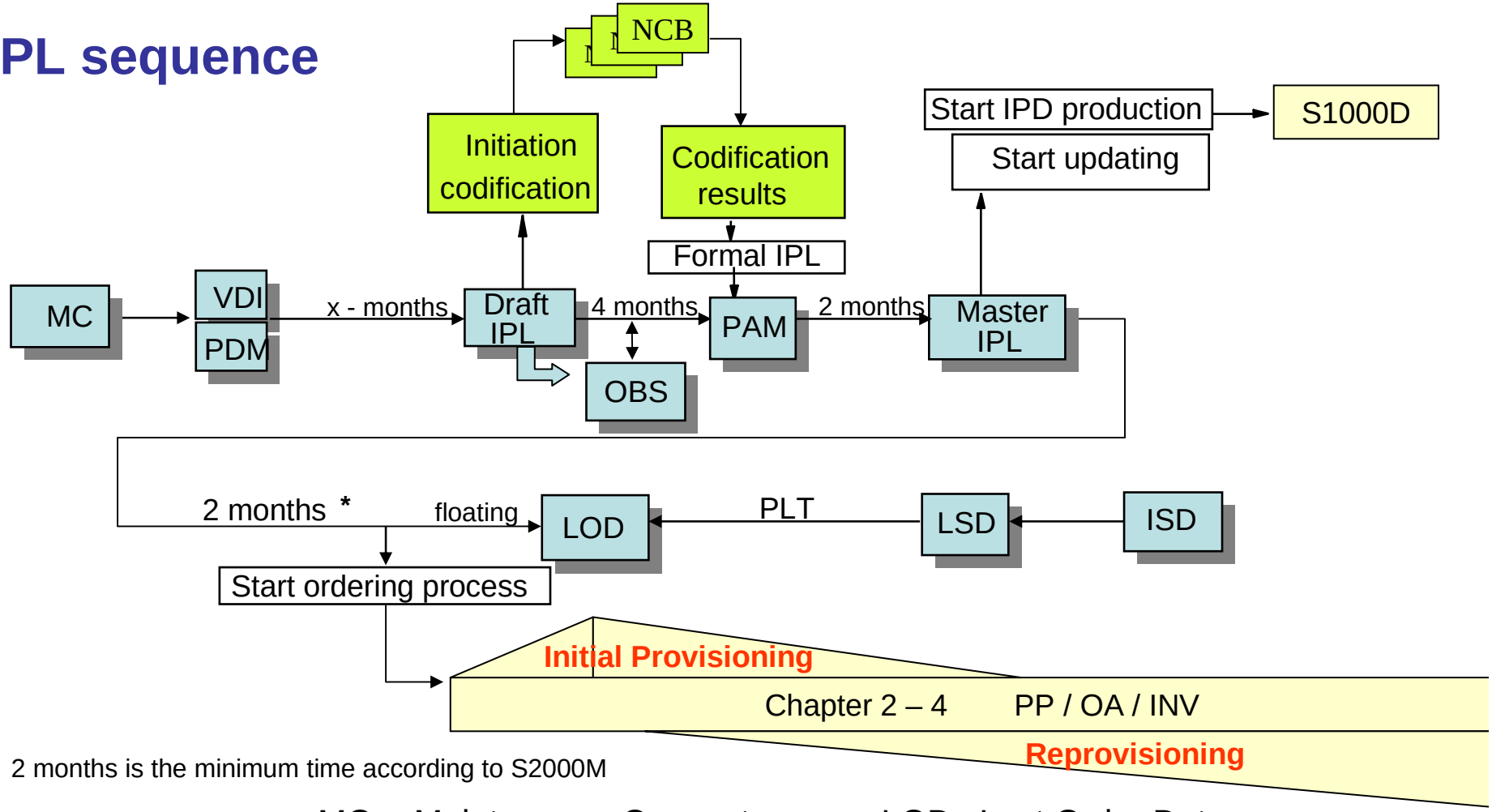
S2000M Materiel Management

IPL sequence



* 2 months is the minimum time according to S2000M

MC - Maintenance Concept
VDI - Vendor Data Input
PAM - Pre-Assessment Meeting
LOD- Last Order Date
ISD - In Service Date
LSD- Logistic Support Date

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Chapter 1 Messages

Section 1A-7 presents the structure and format of the messages, which have been produced.
The following formats will be used:

- Transmission of provisioning data from Contractor to Customer
  - **CSNIPD** - CSN-orientated IP data
  - **PNOIPD** - PN-orientated IP data
  - **UPIPCO** - Category 1 Updating of IP data
  - **UPIPCT** - Category 2 Updating of IP data
  - **UPIPPN** - Updating of PN-orientated IP data
  - **CORIPD** - Correction of IP data
  - **RESTIP** - Restatement of IP data (introduced with issue 4.0)
- Transmission of Observations and Customer provided data
  - **OBSINF**
- Transmission of Codification requests from Contractor to Home NCB
  - **CODREQ**

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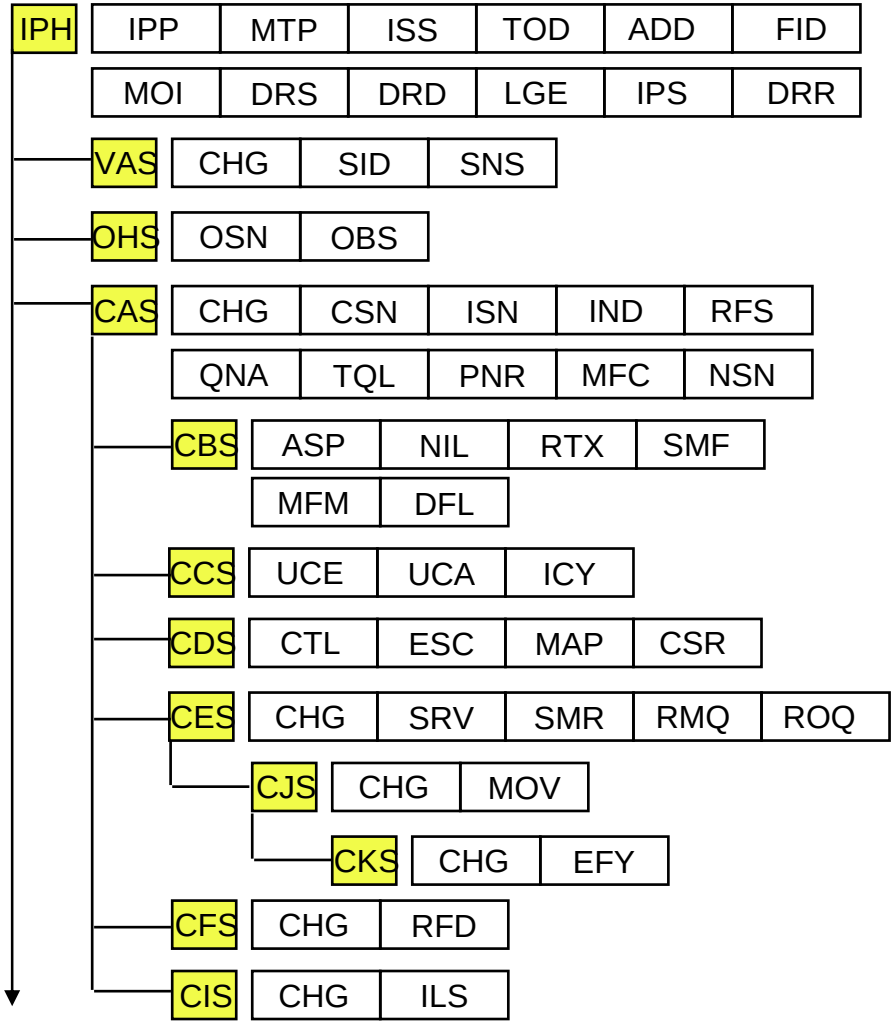
S2000M Materiel Management

CSNIPD structure



IPH - Header Segment
Identification of the IP Project

VAS - Segment
Extension of IPH-segment, identifies the different variants

OHS - Segment
Free text

CAS - Segment
Association to the part-related data in the PAS-segment
Mandatory location-related data
Identification of the part applicable to the Location

CBS, CCS, CDS, CFS - Segment
Conditional - to be provided as requires by the item

CES - Segment
Mandatory, Service and SMR code

CJS - Segment
Mandatory associated with CES-segment
Identifies Aircraft or Engine Model Versions

CKS - Segment
Indicates the Effectivity

CIS - Segment
Indicates the Integrated Logistic Support Number

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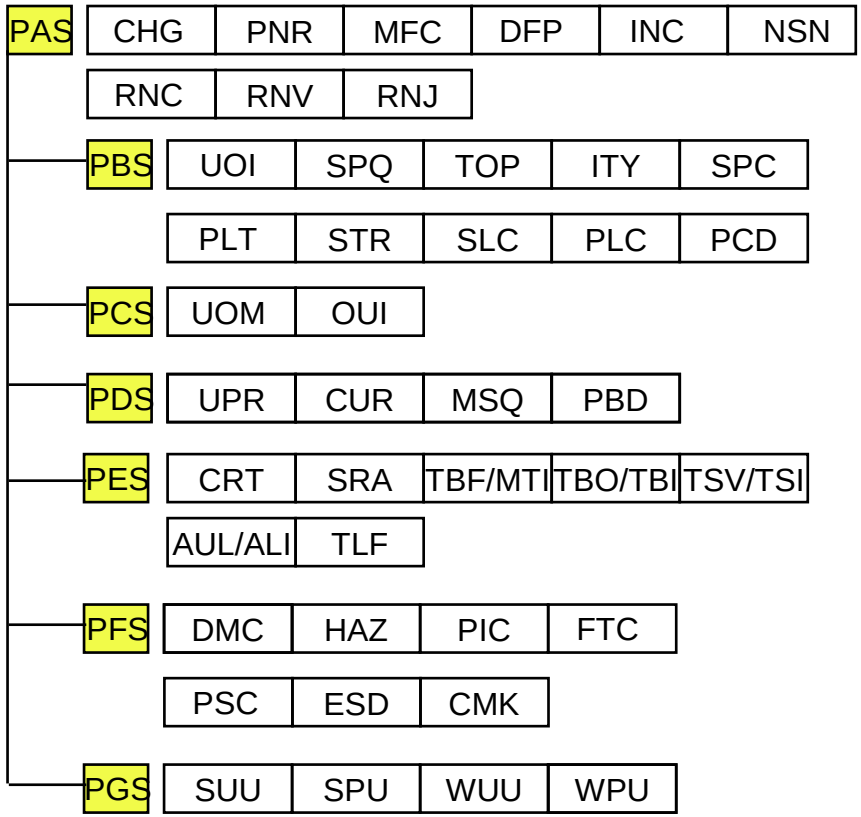
S2000M Materiel Management

CSNIPD structure (cont.)



PAS – Segment

Identifies the Part-related Data

The PAS-Segment and associated segments are to be provided once for each PN in the Project

PBS, PCS, PDS, PES, PFS – Segment

Conditional - to be provided by the item

PBS - Segment contains mandatory data for recommended spares

PES - Segment contains data for repairable

Chapter 2 - Pricing

… takes care about national pricing regulations and NPA price approval processes

Price types:
- Indicative
- Provisional
- Maximum
- Fix
- …

Price transmissions:
- Price lists
- RFQ – Quotation
- Order based price

Price validity:
- Date of order
- Date of CDD
- Date of delivery

Price category:
- Order price
- Price break
- MSQ price
- …

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Chapter 3 - Order administration

Provisioning category:

- Initial provisioning
- Reprovisioning
- Spare
- Repair *
- AGE
- ModSet
- Other service
- Special order

- Routine order
- Expedite order
- ….

Transaction types:

- Order placement
- Order response
  (acceptance / rejection)
- Order change
  (CUS/CON – QTY – FDD – PTY – UCD …)
- Change response
- Delivery information
- Delivery response
- Hastening

* Repair within Chapter 3 (2 and 4) or i.a.w. Chapter 5

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Chapter 4 - Invoicing

… considers impact of Chapter 2
(national pricing regulations)

Invoicing category:

- Final invoicing
- Provisional invoicing
- Invoice adjustment

Transaction types:

- Invoice
  - for payment
  - for validation only
- Summary invoice
- Payment advice

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