

Chapter 7.3.1.1

Data module DTD and Schema - Version summary

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1 General

This chapter identifies all S1000D DTD and Schema versions, which have been formally released. For each version there is a summary of the reasons for change from previous releases. Details of the changes are recorded in the appropriate sections.

2 Data module DTD

2.1 List of data module DTD release versions

[Table 1](#) lists all data module DTD release versions together with their related S1000D issue and change numbers.

Table 1 List of S1000D data module DTD release versions

S1000D Issue, Change No.	DTD Version No.	Formal public identifier code	Production release date
1, 6	1.6	950331	1995-03-31
1, 7	1.7	980102	1998-01-02

S1000D Issue, Change No.	DTD Version No.	Formal public identifier code	Production release date
1, 8	1.8	19990131	1999-01-31
	1.8.1	20000531	2000-05-31
1, 9	1.9	20010401	2001-04-01
2, 0	2.0	20030531	2003-05-31
2, 1	2.1	20040229	2004-02-29
2, 2	2.2	20050501	2005-05-01

2.2 Update summary

2.2.1 Version 1.6

This was the first formal version of the S1000D data module DTD, released to coincide with Initial issue, Change 6 of the specification.

2.2.2 Version 1.7

Summary of changes for version 1.7 of the data module DTD requested by TPSMG/EPWG:

- Deleted all Aircraft Ground Equipment (AGE) and Air Vehicle Engines and Equipment (AVEE) General Data DTD
- Restructured the DTD to remove marked sections. Control is now performed by referencing the required entities. New entities defined to store more of the content model structure required by a number of the DTDs
- Removed the element `<proclist>` from the DTD
- Added new element `<language>` as part of the element `<dmaddres>`
- Defined common status structure used by both AGE and AVEE DTD
- Incorporated the following content models: Aircrew, Air vehicle fault isolation, Illustrated parts data, and Maintenance planning
- Removed all attributes except the attribute `boardno` from the element `<graphic>` and the element `<symbol>`
- New attribute `id` to identify revision/change information added. The element `<change>` and the entity `%INSDEL`; have been redefined
- Added the element `<spares>` in preliminary requirements. Added the element `<csn>` and the element `<isn>` to allow links to IPD. Introduced new element `<supequi>`, element `<supply>`, element `<spare>` to allow identification of a single item of support equipment, supplies, spares. The element `<partno>` has been broken down into two sub-elements to allow identification of the manufacturer
- Allowed the element `<caption>` within the descriptive content model
- Defined new required persons structure
- Removed value "underscore" from the attribute `emph` of element `<emphasis>`
- Changed entity `%ORGNAME`; and entity `%RPCNAME`; to contain CDATA instead of a declared value
- Changed content models of element `<supequi>`, element `<supply>`, element `<spare>`, element `<equip>`, element `<lru>`, element `<sru>`, to allow element `<nsn>`, and element `<csnref>`

2.2.3 Version 1.8

Summary of changes for version 1.8 of the data module DTD requested by TPSMG/EPWG:

- Added reason for change attribute `rfc` to entity `%INSDEL`; definition list

- Moved product management data information from status to first item within preliminary requirements, also removed element `<pmd>` from within schedule element `<deftask>`, creation of new entity %PMDATA;
- In Illustrated Parts Data changed the content model of element `<rfs>` and element `<ctl>` from #PCDATA to EMPTY. Changed occurrence of the element `<mov>` within the element `<ces>` from mandatory to optional
- Renamed the attribute `id` of element `<isn>` to attribute `isn`
- Added attribute `id` to required elements
- Harmonized AGE and AVEE to single applicability definition. Deleted the entity %AGEAPP; and the entity %AVEEAPP;
- Redefined entity %NCII; to entity %NIC;
- Removed descriptive element `<caption>` and element `<brk>` and harmonized with aircrew element `<caption>` by addition of element `<ctext>` within the element `<caprow>`. Created new entity %CAPGRP;. Allowed captions within AVEE descriptive and AVEE procedural data modules
- Redefined status and power source as direct attributes of air vehicle configuration elements. Deleted element `<airvstat>` and element `<power>`
- Defined additional security levels 5 to 9
- Added value "Underscr" to list of declared values of attribute `emph` on element `<emphasis>`
- Harmonized element `<manufact>` to element `<mfc>`, element `<partno>` to element `<pnr>` and element `<quantity>` to element `<qty>`
- Changed element `<skill>` to be EMPTY, and add the attribute `skill` from the element `<perskill>`
- Added TIFF image notation
- Changed element `<zone>` to be optional repeatable instead of mandatory repeatable within element `<pmd>`
- Amended data module DTD to allow element `<refdm>` and element `<sheet>` to have an attribute `id`
- Added attribute `type` to element `<caption>` to specify the type of caption
- Restructured required conditions to allow required conditions on there own to be mixed with element `<reqdm>` and element `<reqtp>`
- Added the value "step" and value "para" to the list of declared values for the attribute `xidtype` on the element `<xref>`
- Added new value "RINSTATE" to attribute `type` on the element `<issno>` for re-instating data modules
- Added the element `<applic>` within various elements within the AirCrew DTD
- Added the attribute `premodtitle` and the attribute `postmodtitle` in the element `<config>`
- Added optional attribute `uom` to element `<qty>`
- Replaced element `<uom>` (sub element of `<threshold>` and sub element `<pcs>`) by a mandatory attribute `uom`
- Allowed the default definition of crew members directly at the drill level
- Allowed the definition of closing conditions at the end of a drill
- Expressed within a step the possibility to avoid or force the auto numbering of the step.
- Harmonized AGE and AVEE variants of the different DTD
- Additional changes to the aircrew checklist

2.2.3.1 Version 1.8.1

Summary of changes for version 1.8.1 of the data module DTD requested by TPSMG/EPWG:

- CPF 00-02D: Allowed the element `<foldout>` within AirCrew (see `aircrew.ent`)
- CPF 00-03D: Allowed the element `<caption>` within entity `%ACTEXT`; (see `aircrew.cfg`)
- CPF 00-05D: Changed the type of attribute `charoff` on element `<tgroup>` from NUTOKENS to NUTOKEN (see `fig_tab.ent`)
- CPF 00-07D: Changed the type of attribute `nsn` on element `<nsn>` from NUMBERS to CDATA (see `applic.ent`)
- CPF 00-10F: Changed the declarations for attribute `prelreqs`, attribute `proced` and attribute `closeup` on the element `<opndurn>` from NUMBER to CDATA (see `pmdata.ent`)
- CPF 00-19UK: Added value "sheet" to list of declared values for attribute `xidtype` on the element `<xref>` (see `common.ent`)

2.2.4

Version 1.9

Summary of changes for version 1.9 of the data module DTD requested by TPSMG/EPWG:

- CPF 2001-06I and CPF 2001-26UK: Included a bug fix for element `<repair>` within element `<lruiitem>` and element `<sruitem>` - changed to optional single from mandatory single (see `af.ent`)
- CPF 2001-17D: Included a bug fix for attribute `id` of element `<isostep>` and element `<isoend>` - changed name to lower case (see `af.ent`)
- CPF 1998-45EPWG: Included changes due to the introduction of graphical hotspots (see `common.ent`):
 - Changed attribute `xrefid` from #REQUIRED to #IMPLIED on element `<xref>`
 - Added optional attribute `target` and attribute `destitle` to element `<xref>`
 - Introduced new element `<hotspot>` for the definition of graphical hotspots and added it as an optional repeatable child to element `<graphic>`
 - Amended element `<xref>` by optional repeatable content model
- CPF 2001-16D: Notations for GIF and PNG graphics, and PDF files added; TIFF notation amended (see `common.ent`)
- CPF 2001-19F: Added optional attribute `target` to element `<refdm>` (see `content.ent`)

Note

The optional attribute `target` can be used to point into an external data module. However, links into an external procedural or fault isolation type data module are not allowed.

- CPF 2001-07I: Changed occurrence of element `<mov>` from single to repeatable within content model of element `<ces>` (see `ipd.ent`)
- CPF 2001-04I: Changed appearance of element `<figure>` from mandatory to optional within content model of element `<ipc>` (see `ipd.ent`)
- CPF 2001-15D (see `ipd.ent`):
 - Changed occurrence of element `<can>` from single to repeatable within content model of element `<isn>`
 - Changed definition of attribute `value` on element `<ftc>` from #FIXED to #REQUIRED
 - Changed definition of attribute `asp` on optional element `<asp>` from #IMPLIED to #REQUIRED
 - Amended the comment on attribute `value` of element `<smf>` to state the meaning of possible values

- CPF 2001-13D: Added optional attribute `refipp` and attribute `refrpc` to definition list on element `<csnref>` for referencing non-chapterized IPC's (see `nic.ent`)
- CPF 2001-14D: Amended content model of element `<reqdm>` by optional element `<issno>` and element `<dmtitle>`, and added optional attribute `target` of type CDATA to definition list (see `prelreq.ent`)
- CPF 2001-20D (in-line applicability):
 - Amended content model of element `<crewmem>` by optional element `<applic>` (see `aircrew.ent`)
 - Amended content models of element `<capbody>`, element `<capgrp>`, element `<caprow>` and element `<caption>` by optional element `<applic>` (see `capgrp.ent`)
 - Amended content models of element `<hotspot>`, element `<symbol>` and element `<xref>` by optional element `<applic>` (see `common.ent`)
 - Amended content models of element `<refdm>` and element `<reftp>` by optional element `<applic>` (see `content.ent`)
 - Amended content model of secondary group on element `<figure>` and content model of element `<rfa>` by optional element `<applic>` (see `fig_tab.ent`)
 - Amended content models of element `<def>`, element `<item>` and element `<term>` by optional element `<applic>` (see `lists.ent`)
 - Amended content models of element `<reqcond>`, element `<reqcondm>`, element `<reqcontp>`, element `<supequi>`, element `<supply>` and element `<spare>` by optional element `<applic>` (see `prelreq.ent`)
 - Amended content model of element `<specpara>` by optional element `<applic>` (see `specpara.ent`)
 - Amended content models of element `<warning>`, element `<caution>` and element `<note>` by optional element `<applic>` (see `wcnp.ent`)
- CPF 2001-25UK: Permitted multiple occurrences of element `<para>` on element `<closetxt>` and made it optional instead of mandatory (see `af.ent`)
- CPF2001-31I: Changed occurrence of element `<pnr>` within element `<model>` on the element `<applic>` from optional single to optional repeatable (see `applic.ent`)

2.2.5

Version 2.0

Summary of changes for version 2.0 of the data module DTD requested by TPSMG/EPWG:

- TPSMG request: Public identifiers within DOCTYPE statements and entities have been updated to reflect the nomenclature S1000D and the extension of the specification to land and sea systems ("AECMA" replaced by "S1000D", "AirCrew" changed to "Crew", "Air Fault" changed to "Fault"). Consequently, DTD files and entities have been renamed as follows:
 - File `aecma.cfg` to file `s1000d.cfg`
 - File `af.ent` to file `fault.ent`
 - File `aecma.dcl` to file `s1000d.dcl`
 - Entity `%AECMA`; to entity `%S1000D`;
 - Entity `%AF`; to entity `%FAULT`;
 - Entity `%AIRCREW`; to entity `%CREW`;
- CPF 1998-55D: Definitions of ISO character entities replaced by call up of new entity `%ISOENTS`; containing the complete set of ISO 8879 definitions (see `comps.ent` and `isoents.ent`)
- CPF 1999-41UK: Type of attribute `uom` on element `<thi>` changed to CDATA (see `pmdata.ent`)

- CPF 1999-43UK: Optional attribute `inwork` added to element `<issno>` (see `base.ent`)
- CPF 1999-70D: Element `<graphic>` replaced by element `<symbol>` in content models of element `<warning>`, element `<caution>` and element `<note>` (see `wcnp.ent`)
- CPF 2000-01D (markup of abbreviations):
 - New element `<acronym>` and element `<acroterm>` added to entity `%text`; (see `common.ent`)
 - New element `<acrodef>` and element `<acroterm>` introduced as subelements of element `<acronym>` containing the definition stored in entity `%SPARCON`; (see `common.ent`)
 - Content model of element `<capline>` amended by optional subelement `<acroterm>` (see `capgrp.ent`)
 - Content model of element `<captext>` amended by optional subelement `<acronym>` and subelement `<acroterm>` (see `capgrp.ent`)
- CPF 2000-04D: Attribute list of element `<legend>` amended by the attributes defined in entity `%bodyatt`; (see `fig_tab.ent`)
- CPF 2000-11D: Occurrence of subelement `<avehcfg>` and subelement `<opndurn>` changed from mandatory single to optional single on element `<pmd>` (see `pmdata.ent`)
- CPF 2000-13UK: Content model of element `<remarks>` amended by permitting multiple "simple" paragraphs through call of new entity `%SPAR`; (see `status.ent`)
- CPF 2001-22I: Attribute list of element `<deftask>`, element `<taskitem>` and element `<timelim>` amended by attribute `skill` (see `schedul.ent`)
- CPF 2001-40D: Content model defined in entity `%ACSTCON`; amended to allow for optional repeatable element `<para>` after element `<challeng>`, element `<response>` and element `<procd>` (see `crew.ent`)
- CPF 2001-41D: Occurrence of element `<subpara1>`, element `<subpara2>`, element `<subpara3>` and element `<subpara4>` changed from "zero, two or more" to "zero or more" within context of element `<para0>` (see `paras.ent`)
- CPF 2001-42D: Occurrence of element `<step2>`, element `<step3>`, element `<step4>` and element `<step5>` changed from "zero, two or more" to "zero or more" within context of element `<step1>` (see `steps.ent`).
- CPF 2001-28UK: Definition list of attributes of element `<nsn>` amended by optional attribute `nsn`, attribute `ncb` and attribute `nin3to9`, all of type `NUMBER`. Attribute `nsn` on element `<nsn>` changed from `#REQUIRED` to `#IMPLIED` (see `applic.ent`).
- CPF 2001-50US: Introduction of new process data module type (see `process.dtd`, `process.ent` and `interact.ent`)
- CPF 2001-56US (enhancement to security and data restriction markings):
 - New optional attribute `commcls` and attribute `caveat` introduced on element `<security>` to cover additional commercial security and caveat marking requirements. The definition is stored in new entity `%COMMSEC`; Entity `%SECUR`; and entity `%SECURIT`; were amended accordingly (see `s1000d.cfg`)
 - Content model of element `<status>` amended by new optional element `<datarest>` to cover additional data restriction requirements (see `status.ent`)
 - New entity `%EXTRESTR`; introduced to have the content model of the element `<datarest>` in a separate file (see `datarest.ent`). This is defined in `comps.ent` and called up in `status.ent`
- CPF 2001-74SE: CDATA declarations for all project configurable values for attributes introduced, defined in the following: entity `%ACROTYP`; entity `%CAVEATS`; entity `%CLASSES`; entity `%COLOURS`; entity `%COMMCLSS`; entity `%CPRIOS`; entity

- %CREWMEMS; entity %DRILLTPS; entity %EMPHS; entity %PREFIXES; entity %RSPTYPES; entity %SKILLS; entity %SUP . LEVS; entity %TYPES; and entity %THIUOMS; (see s1000d.cfg). New project configuration file project.cfg is invoked, which declares the fixed set of all allowable values for attributes (see s1000d.cfg). This project configuration file is mirrored in project_default.cfg. One other example project configuration file is supplied in addition with the DTD package. This configuration file reduces the fixed set of all allowable values to the S1000D reserved values for attributes as given in [Chap 3.9.6](#) (see project_minimum.cfg). Other affected DTD files by this CPF implementation are capgrp.ent, common.ent, comps.ent, crew.ent, lists.ent, pmdata.ent and schedule.ent
- CPF 2001-75D: Introduced new wiring data module type consisting of the wiring data DTD (see wrngdata.dtd) and the wiring data description DTD (see wrngflds.dtd)
 - CPF 2001-80SE: Content model of element <sb> amended by new subelement <pubcode>, subelement <pubtitle> and subelement <pubdate> defined in entity %PUBREF; (see common.ent)
 - CPF 2002-06F (update of element <applic> and element <mod>):
 - Content model of element <applic> changed (see applic.ent) as follows:
 - Occurrence of subelement <model> changed from optional single to optional repeatable
 - Occurrence of subelement <customer> and subelement <softprog> under element <model> changed from optional single to optional repeatable
 - New subelement <level> and subelement <csnref> introduced on element <model>
 - New subelement <sb> introduced on element <config>
 - Subelement <presb> and subelement <postsb> of element <config> replaced by element <sb>
 - Introduced element <issno> and element <dmttitle> to element <sb>
 - Introduced element <mod> to element <config>
 - Attribute premod, attribute postmod, attribute premodtitle and attribute postmodtitle removed from element <config>
 - List of attributes for element <config> amended by the definitions in entity %bodyatt;
 - New substructure related to element <csnref>, element <nsn>, element <mfc>, element <pnr> and element <serialno> defined under element <model>
 - Definition of element <csnref> incorporated
 - Entity %NIC; redefined and renamed to entity %NI; now contained in ni.ent making nic.ent obsolete (see comps.ent and prelreq.ent)
 - Definition of element <csnref> removed from entity %NI; and entity %IPD; (see ni.ent and ipd.ent)
 - Content model and list of attributes of element <mod> changed by introducing new element <modtitle> and amending its list of attributes by definition in entity %bodyatt; (see status.ent)
 - Content model of element <identno> changed (see ni.ent)
 - Content model of element <supequi>, element <supply> and element <spare> amended to reflect the new substructure of element <csnref>, element <nsn> and element <identno> (see prelreq.ent)
 - CPF 2002-12FR: Content model of element <pubcode> under element <techpub> amended by new element <pmc> (defined in pmc.ent) to allow for references to publication

- modules (see common.ent). New entity %EXTPMC; introduced to call up the publication module code definition (see comps.ent and base.ent)
- CPF 2002-26UK: New entity %PUBREF; introduced that defines a substructure for publication references containing element <pubcode>, element <pubtitle> and element <pubdate>. This entity is called by element <techpub> (see common.ent and content.ent)
 - CPF 2002-28FR: Content model of element <rfu> amended by permitting multiple "simple" paragraphs through call of new entity %SPAR; (see status.ent)
 - CPF 2002-29FR: Attribute list of element <graphic> and element <symbol> amended by optional attribute reprowid and attribute reprohgt (see common.ent)
 - CPF 2002-37GB: Exclusion of element <sheet> deleted on element <frc> iaw ISO 8879, clause 11.2.5.2 (see crew.ent)
 - CPF 2002-38SE: According to decisions taken, element <specpara> has been removed from the DTD resulting in deletion of entity %EXTSPEC; (file specpara.ent no longer needed). All calls of entity %EXTSPEC; have been replaced by calls of entity %WCNP;. A number of new entities have been introduced (entity %HEADING1;, entity %NP;, entity %WC;, entity %CHECKSTP;, entity %ISOSTPH; and entity %ISOSTPA;), and several entities have been redefined (entity %NPAR;, entity %stepcon;, entity %spcpara;, entity %DRLINTRO; and entity %ACSTCON;) to cover the request of introducing titles in steps (see fault.ent, crew.ent, common.ent, descript.ent, paras.ent and steps.ent). In addition, the content model of element <item> has been amended to allow notes (element <note>) within list items (see lists.ent)
 - CPF 2002-39SE: List of attributes for element <graphic> and element <symbol> amended by optional attribute reproscl (see common.ent)
 - New element <p> introduced to allow for a multiple "simple" paragraph substructure under element <rfu> and element <remarks> (see common.ent)
 - New entity %SPAR; and entity %SPARCON; introduced for the definition of "simple" paragraph structures (see common.ent)
 - Bug fix for element <xref>: Definition changed to have a mandatory end tag and using entity %SPARCON; in its content model now (see common.ent)
 - New entity %DATE; introduced for general purpose use in various lists of attributes referring to a date breakdown into attribute year, attribute month and attribute day (see s1000d.cfg)
 - Bug fix for element <tgroup>: Attribute char and attribute charoff redefined to become consistent with occurrences on other elements within element <table>, ie they are now optional without a default value. Especially the previous default NIL (value "") on attribute char caused parsing problems (see fig_tab.ent)
 - TPSMG request: Occurrence of subelement <sbcc> and subelement <fic> in content model of element <status> changed from optional single to optional repeatable (see entity %STATUS; in status.ent)
 - EPWG request: All declared values of attributes converted to lower case
 - EPWG request: New element <challrsp> introduced to resolve the ambiguity of defining element <crew> twice within content model of entity %ACSTCON; (see crew.ent)
 - CPF 2003-08SE: Entity %PREFIXES; amended by default value "pf02" on attribute prefix of element <randlist> (see s1000d.cfg, project.cfg and lists.ent)

2.2.6 Version 2.1

Summary of changes for version 2.1 of the data module DTD requested by TPSMG/EPWG:

- CPF 2003-10US: Element <set>, element <size>, element <add>, element <remove>, element <union>, element <intersect>, element <set-diff>, element <member>, element <subset> and element <disjoint> introduced. Value

- "set-string", value "set-real" and value "set-integer" added to list for attribute `valuetype` of element `<variable>`. Value "nil" removed from this list
- CPF 2003-11US: Value "multiple" added to list for attribute `select` of element `<menu>`. Call of entity `%DIALOG`; replaced by new element `<no-assertion>` within content model of element `<choice>`
- CPF 2004-11US: Element `<choice>` renamed to element `<menuchoice>`, element `<nil>` to element `<novalue>`, element `<no-assertion>` to element `<noassertions>`, element `<size>` renamed to element `<sizeof>` due to name clashes

2.2.7

Version 2.2

Summary of changes for version 2.2 of the data module DTD requested by TPSMG/EPWG:

- CPF 2002-11FR:
 - Inclusions and exclusions removed from all elements
 - New entity `%FFT`; defined which contains element `<figure>`, element `<foldout>` and element `<table>`. Entity `%NP`; replaced by entity `%NPFFT`; which includes entity `%FFT`. New entity `%TEXT-NOREFS`; defined, same as entity `%text`, except element `<change>`, element `<emphasis>`, element `<ftnote>`, element `<refdm>` and element `<reftp>` removed. Element `<graphic>` and element `<hotspot>` moved to new file `figure.ent` (see `common.ent`, `paras.ent` and `steps.ent`)
 - New public identifier given by entity `%DESCRPTCFG`; introduced for descriptive data modules. New public identifiers given by entity `%EXTFIG`; and entity `%EXTTAB`; introduced which replace entity `%EXTFTAB`. New public identifiers given by entity `%EXTWC`; and entity `%PARAGRAPHS`; introduced which replace entity `%WCNP`; (see `comps.ent`)
 - Call of entity `%EXTFTAB`; replaced by entity `%EXTFIG`; and entity `%EXTTAB`. Call of entity `%WCNP`; replaced by entity `%EXTWC`; and entity `%PARAGRAPHS`; (see `crew.dtd`, `descript.dtd`, `fault.dtd`, `ipd.dtd`, `proced.dtd`, `process.dtd`, `schedul.dtd`, `wrngdata.dtd`, `wrngflds.dtd`)
 - Entity `%FFT`; added to the content models of element `<frc>`, element `<descacrw>`, element `<procd>`, element `<challeng>`, element `<response>`, element `<endmattr>` and entity `%DRLINTRO`. Call of entity `%text`; replaced by entity `%TEXT-NOREFS`; in the content model of element `<tabtitle>`. Entity `%NP`; replaced by entity `%NPFFT`; in the content models of entity `%ACSTCON`; and entity `%NPAR`; (see `crew.ent`)
 - Entity `%ACTEXT`; and entity `%FFT`; redefined for descriptive data modules (see `descript.cfg`)
 - Call of entity `%DESCRPTCFG`; introduced for the redefinition of entity `%ACTEXT`; to contain element `<caption>` for descriptive data modules (see `descript.dtd`)
 - Entity `%FFT`; added to element `<descript>` (see `descript.ent`)
 - New element `<delruiitem>` based on element `<lruiitem>` defined which does not contain element `<test>` and element `<repair>`. Element `<lruiitem>` replaced by element `<delruiitem>` in the content model of element `<detect>`. New element `<desruiitem>` based on element `<sruitem>` defined which does not contain element `<test>` and element `<repair>`. New element `<lrlruiitem>` based on element `<lruiitem>` defined which does not contain element `<test>`. Element `<lruiitem>` replaced by element `<lrlruiitem>` in the content models of element `<locandrep>` and element `<diagnost>`. New element `<lrsruiitem>` based on element `<sruitem>` defined which does not contain element `<test>`. Entity `%FFT`; added to element `<isolatep>` and entity `%ISOSTPA`; (see `fault.ent`)
 - Call of entity `%EXTLIST`; moved to file `ipd.dtd`. Call of entity `%WCNP`; removed (see `ipd.ent`)

- Entity %text; replaced by entity %TEXT-NOREFS; in the content model of element <reqcond> (see prelreq.ent)
- Entity %FFT; added to the content model of element <mainfunc> (see proced.ent)
- Call of entity %EXTFTAB; removed, and call of entity %WCNP; replaced by entity %PARAGRAPHS; (see wrngdata.dtd and wrngflds.dtd)
- CPF 2004-02SE: Content models of element <supequi>, element <supply> and element <spare> amended by optional sub element <refs> (see prelreq.ent)
- CPF 2004-03SE:
 - New entity %CLOSEREQ; introduced (see comps.ent and closereq.ent)
 - Element <closeup> renamed to new element <closereqs>, and content model changed to include existing element <reqconds> only (see closereq.ent)
 - Element <closeup> replaced by element <closereqs> in the content model of element <proced> (see proced.ent)
- CPF 2004-06SE:
 - Element <refs> made optional and changed to contain only element <refdm> and element <refftp>. Element <techpub> removed from DTD. Content model of element <refftp> changed to contain optional element <applic>, new entity %TEXT-NOREFS; and entity %PUBREF; (see content.ent)
 - Occurrence of sub element <refs> made single within the content models of element <describe>, element <afiref>, element <repair>, element <testdesc> and element <testproc> (see fault.ent)
 - Element <reqdm> replaced by element <refdm>, and element <reqtp> replaced by element <refftp> (see prelreq.ent)
- CPF 2004-21GB: Value list of attribute change amended by "modify" within entity %INSDLE; (see s1000d.cfg)
- CPF 2004-22GB: Content model of element <copyright> replaced by mandatory repeatable sub element <para> (see datarest.ent)
- CPF 2004-24GB:
 - Element <level> replaced by new element <maintlevel> to allow for the definition of generic maintenance levels (see applic.ent)
 - New entity %MNTLVLS; introduced which defines generic maintenance levels (see project.cfg and s1000d.cfg)
- CPF 2004-25SE:
 - New data module type "Business Rules Exchange" created (see brex.dtd)
 - New public identifier given by entity %BREX; introduced for the business rules exchange breakdown (see comps.ent and brex.ent)
 - Content model of entity %STATUS; amended by new mandatory element <brexref> which in turn contains mandatory element <refdm> (see status.ent)
- CPF 2004-30DE: Public identifier date on entity %PROJECT; introduced (see comps.ent)
- CPF 2004-31DE: Missing third row in value lists introduced within all entities apart from entity %ACROTYP; (see project.cfg)
- CPF 2004-32US:
 - Content model of element <applic> replaced by new entity %APPLIC; (see applic.ent)
 - Entity %APPLIC; created with optional element <expression> added to the applicability content model for interactive use (see applic_interact.ent)
 - Entity %APPLIC; created with the normal applicability content model for static use (see applic_static.ent)
 - New entity %APPLINTERACT; new entity %APPLSTATIC; new entity %STEPINTERACT; new entity %STEPSTATIC; new entity

- %PARACONINTERACT; and new entity %PARACONSTATIC; introduced (see comps.ent)
- Calls of entity %APPLSTATIC; and entity %PARACONSTATIC; introduced (see bres.dtd, crew.dtd, descript.dtd, fault.dtd, ipd.dtd, proced.dtd, schedul.dtd, wrngdata.dtd and wrngflds.dtd)
- Entity %paracon; redefined to contain element <variable-ref> for interactive use (see paracon_interact.ent and paracon-static.ent)
- Element <precond> replaced by element <applic> in the content models of element <dialog> and element <menuchoice> for interactive use (see interact.ent)
- Call of entity %STEPSTATIC; introduced (see proced.ent)
- Calls of entity %APPLINTERACT; entity %PARACONINTERACT; and entity %STEPINTERACT; introduced (see process.dtd and process.ent)
- Element <prelreqs> and element <closereqs> added to element <process>. Entity %bodyatt; added to many elements instead of a single attribute id. Element <precond> replaced with element <applic> containing element <expression> for interactive use. Entity %STEP1; added to the content model of element <dm-node> for interactive use (see process.ent)
- Element <step2> replaced by entity %STEP2; in the content model of element <step1>. Element <step3> replaced by entity %STEP3; in the content model of element <step2>. Element <step4> replaced by entity %STEP4; in the content model of element <step3>. Element <step5> replaced by entity %STEP5; in the content model of element <step4> (see steps.ent)
- New entity %STEP1; defined which contains element <step1> and new element <step1-alt> for interactive use. New entity %STEP2; defined which contains element <step2> and new element <step2-alt> for interactive use. New entity %STEP3; defined which contains element <step3> and new element <step3-alt> for interactive use. New entity %STEP4; defined which contains element <step4> and new element <step4-alt> for interactive use. New entity %STEP5; defined which contains element <step5> and new element <step5-alt> for interactive use. Element <step1-alt> created which contains mandatory repeatable sub element <step1>. Element <step2-alt> created which contains mandatory repeatable sub element <step2>. Element <step3-alt> created which contains mandatory repeatable sub element <step3>. Element <step4-alt> created which contains mandatory repeatable sub element <step4>. Element <step5-alt> created which contains mandatory repeatable sub element <step5> (see steps_interact.ent)
- New entity %STEP1; defined which contains element <step1> for static use. New entity %STEP2; defined which contains element <step2> for static use. New entity %STEP3; defined which contains element <step3> for static use. New entity %STEP4; defined which contains element <step4> for static use. New entity %STEP5; defined which contains element <step5> for static use (see steps_static.ent)
- CPF 2004-37DE: Optional attribute cconnect introduced on element <contact>. Optional attribute scrlevel, optional attribute scrtype and optional attribute scrstyle introduced on element <screen> (see wrngdata.ent)
- CPF 2004-40US: Attribute visibility introduced on element <hotspot> to enable the reuse of graphical objects (see figure.ent)
- CPF 2004-45US: New element <ftnote> and new element <ftnref> defined and used in the content model of entity %text; to allow for markup of footnotes in running text and tables (see common.ent)
- CPF 2004-46US:

- Optional sub element [<ellogic>](#) introduced on new element [<elecequip>](#) and element [<connector>](#). Optional sub element [<nomenc>](#) introduced on element [<elecequip>](#) (see wrngdata.ent)
- Optional sub element [<dsc.econtact>](#) and sub element [<dsc.statedes>](#) added to the content models of element [<dsc.elecequip>](#) and element [<dsc.connector>](#). Optional sub element [<dsc.nomenc>](#) added to the content model of element [<dsc.elecequip>](#) (see wrngflds.ent)
- CPF 2004-58SE: Content models of element [<supequi>](#), element [<supply>](#) and element [<spare>](#) amended by optional sub element [<remarks>](#) (see prelreq.ent)
- CPF 2004-59FR: Content model of element [<ipp>](#) amended by new optional repeatable element [<vas>](#) to reflect the S2000M definition and use of SID and SNS. Element [<vas>](#) contains new element [<sid>](#) and already existing element [<nsn>](#) (see ipd.ent)
- CPF 2004-64US: Element [<extapp>](#) introduced to enable the launch of external applications from a process data module (see interact.ent)

3 XML Schema for data modules

3.1 List of XML Schema release versions for data modules

[Table 2](#) lists all XML Schema release versions for data modules with their related S1000D issue and change numbers.

Table 2 List of S1000D XML Schema release versions for data modules

S1000D Issue, Change No.	XML Schema version No.	Production release date
2, 0	2.0	2003-05-31
2, 1	2.1	2004-02-29
2, 2	2.2	2005-05-01
2, 2, 1	2.2.1	2006-05-01

3.2 Update summary

3.2.1 Version 2.0

This was the first formal version of the S1000D XML Schema for data modules, released to coincide with Issue 2 of the specification.

3.2.2 Version 2.1

Summary of changes for version 2.1 of the XML Schema for data modules requested by TPSMG/EPWG:

- CPF 2003-10US, 2003-11US, 2004-11US: Implemented iaw the changes for the SGML DTD (see [Para 2.2.6](#))
- CPF 2004-12DE: XML Schema bug fixes:
 - Default value ["pf02"](#) removed from definition of attribute [prefix](#) (see project.cfg)
 - Attribute [prefix](#) on element [<randlist>](#) declared to be required (see lists.xsd)
 - Attribute [mixed](#) with value ["true"](#) removed from definition of element [<sbc>](#) (see status.xsd)

Note

The XML Schema recommendation prohibits the definition of a default value for a required attribute, which makes it impossible to implement CPF 2003-08SE for XML Schemas. The definition of [mixed="true"](#) for simple content results in Schema warnings.

3.2.3 Version 2.2

Summary of changes for version 2.2 of the XML Schema for data modules requested by TPSMG/EPWG:

- CPF 2002-11FR:
 - Group "fft_inc" removed from the content model of element <captext> (see capgrp.xsd)
 - Move groups "WC" to new file wc.xsd, "NP" to new file paragraphs.xsd and "spcpara" to new file spcpara.xsd. Move element <graphic> and element <hotspot> to new file figure.xsd (see common.xsd)
 - Group "gen_inc" removed from content models of element <indxflag>, element <change> and element <emphasis> (see common.xsd)
 - New group "TEXT-NOREFS" defined, same as "text", except element <refdm>, element <refftp>, element <change> and element <fnote> removed. Group "text" replaced by "TEXT-NOREFS" in the content model of <tabtitle>. Group "fft_inc" replaced by "FFT" in the content models of element <frc>, <descacrw>, <procd>, <challeng>, <response>, <endmattr> and group "DRLINTRO". Group "NP" replaced by new group "NPFFT" in the content models of groups "ACSTCON" and "NPAR". Group "fft_inc" removed from the content models of element <crew>, element <crewmem>, element <tabtitle>, element <if>, element <elseif>, element <case>, element <drill>, element <subdrill> and element <step> (see crew.xsd)
 - Group "gen_inc" replaced by "FFTC" in the content model of element <descript>. New group "TEXT-NOREFS" defined, same as "text", except element <refdm>, element <refftp>, element <change> and element <fnote> removed (see descript.xsd)
 - Inclusion of file fig_tab.xsd replaced by inclusions of figure.xsd and table.xsd. Inclusion of file wcnp.xsd replaced by inclusions of wc.xsd and paragraphs.xsd (see crewSchema.xsd, descriptSchema.xsd, faultSchema.xsd, ipdSchema.xsd, procedSchema.xsd, processSchema.xsd, schedulSchema.xsd, wrngdataSchema.xsd and wrngfldsSchema.xsd)
 - Group "fft_inc" replaced by "FFT" in the content model of element <isolatep>. Content model of group "ISOSTPA" amended by group "FFT". Group "fft_inc" removed from the content models of element <isostep>, element <isoend>, element <action>, element <question>, element <answer>, element <yesno>, element <sel-list>, element <yes>, element <no>, element <entfield> and element <choice>. New element <delruiitem> based on element <lruiitem> defined which does not contain element <test> and element <repair>. Element <lruiitem> replaced by element <delruiitem> in the content model of element <detect>. New element <desruiitem> based on element <sruitem> defined which does not contain element <test> and element <repair>. New element <lrlruiitem> based on element <lruiitem> defined which does not contain element <test>. Element <lruiitem> replaced by element <lrlruiitem> in the content models of element <locandrep> and element <diagnost>. New element <lrsruiitem> based on element <sruitem> defined which does not contain element <test> (see fault.xsd)
 - Group "fft_inc" renamed to "FFT" and moved to separate file for alignment with the SGML DTD (see fft.xsd)
 - Group "gen_inc" renamed to "FFTC" and moved to separate file for alignment with the SGML DTD (see fftc.xsd)
 - Inclusion of file lists.xsd moved to ipdSchema.xsd. Inclusion of file capgrp.xsd removed (see ipd.xsd)
 - Group "gen_inc" removed from the content models of element <item> and element <def> (see lists.xsd)

- New group "NPFFT" defined which references groups "NP" and "FFT" in its content model (see npar.xsd)
- Group "gen_inc" removed from content model of element `<para>` (see paragraphs.xsd)
- Group "text" replaced by "TEXT-NOREFS" in the content model of element `<reqcond>` (see prelrq.xsd)
- Group "FFT" added to the content model of element `<mainfunc>` (see proced.xsd)
- Group "NP" replaced by "NPFFT" in the content model of group "stepcon". Group "fft_inc" removed from the content models of element `<step1>` thru element `<step5>` (see steps.xsd)
- Inclusion of file fig_tab.xsd.xsd removed, and inclusion of file wcnr.xsd replaced by paragraphs.xsd (see wrngdataSchema.xsd and wrngfldsSchema.xsd)
- CPF 2004-02SE: Content models of element `<supequi>`, element `<supply>` and element `<spare>` amended by optional sub element `<refs>` (see prelrq.xsd)
- CPF 2004-03SE:
 - Element `<closeup>` renamed to new element `<closereqs>`, and content model changed to include existing element `<reqconds>` only (see closereq.xsd)
 - Element `<closeup>` replaced by element `<closereqs>` in the content model of element `<proced>` (see proced.xsd)
- CPF 2004-06SE:
 - Element `<refs>` made optional and changed to contain only element `<refdm>` and element `<refftp>`. Element `<techpub>` removed from Schema. Content model of element `<refftp>` changed to contain optional element `<applic>`, new group "TEXT-NOREFS" and group "PUBREF" (see content.xsd and text.xsd)
 - Occurrence of sub element `<refs>` made single within the content models of element `<describe>`, element `<afiref>`, element `<repair>`, element `<testdesc>` and element `<testproc>` (see fault.xsd)
 - Element `<reqdm>` replaced by element `<refdm>`, and element `<reqftp>` replaced by element `<refftp>` (see prelrq.xsd)
- CPF 2004-21GB: Value list of attribute change amended by "modify" within group "INDEL" (see s1000d.xsd)
- CPF 2004-22GB: Content model of element `<copyright>` replaced by mandatory repeatable sub element `<para>` (see datarest.xsd)
- CPF 2004-24GB:
 - Element `<level>` replaced by new element `<maintlevel>` to allow for the definition of generic maintenance levels (see applic.xsd)
 - New simple type "MNTLVLS" introduced which defines generic maintenance levels (see project.cfg)
- CPF 2004-25SE:
 - New data module type "Business Rules Exchange" created (see brexSchema.xsd and brex.xsd)
 - Content model of group "STATUS" amended by new mandatory element `<brexref>` which in turn contains mandatory element `<refdm>` (see status.xsd)
- CPF 2004-26US: Documentation tags moved up directly under their respective `<xs:element>` tag (see interact.xsd and process.xsd)
- CPF 2004-32US:
 - Content model of element `<applic>` replaced by new group "APPLIC" (see applic.xsd)
 - Group "APPLIC" created with optional element `<expression>` added to the applicability content model for interactive use (see applic_interact.xsd)

- Group “APPLIC” created with the normal applicability content model for static use (see applic_static.xsd)
- Inclusion of files applic_static.xsd and paracon_static.xsd introduced (see brexSchema.xsd, crewSchema.xsd, descriptSchema.xsd, faultSchema.xsd, ipdSchema.xsd, procedSchema.xsd, schedulSchema.xsd, wrngdataSchema.xsd and wrngfldsSchema.xsd)
- Inclusion of file paracon_capgrp.xsd introduced (see descriptSchema.xsd and procedSchema.xsd)
- Group “paracon” redefined to contain element <variable-ref> for interactive use in addition to groups “text” and “list” (see paracon_interact.xsd and paracon-static.xsd)
- Element <precond> replaced by element <applic> in the content models of element <dialog> and element <menuchoice> for interactive use (see interact.xsd)
- Group “paracon” redefined to contain group “CAPPCON” for static descriptive and procedural data modules in addition to groups “text” and “list” (see paracon_capgrp.xsd and paracon_static.xsd)
- Inclusion of file steps_static.xsd introduced (see proced.xsd)
- Inclusion of files applic_interact.xsd, paracon_interact.xsd and steps_interact.xsd introduced (see processSchema.xsd and process.xsd)
- Element <prelreqs> and element <closereqs> added to element <process>. Group “bodyatt” added to many elements instead of a single attribute id. Element <precond> replaced with element <applic> containing element <expression> for interactive use. Group “STEP1” added to the content model of element <dm-node> for interactive use (see process.xsd)
- Element <step2> replaced by group “STEP2” in the content model of element <step1>. Element <step3> replaced by group “STEP3” in the content model of element <step2>. Element <step4> replaced by group “STEP4” in the content model of element <step3>. Element <step5> replaced by group “STEP5” in the content model of element <step4> (see steps.xsd)
- New groups “STEP1” thru “STEP5” defined which contain element <step1> thru element <step5> and new element <step1-alt> thru new element <step5-alt> for interactive use. Element <step1-alt> thru element <step5-alt> created which contain mandatory repeatable sub element <step1> thru element <step5> (see steps_interact.xsd)
- New groups “STEP1” thru “STEP5” defined which contain element <step1> thru element <step5> for static use (see steps_static.xsd)
- CPF 2004-37DE: Optional attribute cconnect introduced on element <contact>. Optional attribute scrlevel, optional attribute scrtype and optional attribute scrstyle introduced on element <screen> (see wrngdata.xsd)
- CPF 2004-40US: Attribute visibility introduced on element <hotspot> to enable the reuse of graphical objects (see figure.xsd)
- CPF 2004-45US: New element <ftnote> and new element <ftnref> defined and used in the content model of group “text” to allow for markup of footnotes in running text and tables (see common.xsd, crew.xsd and text.xsd)
- CPF 2004-46US:
 - Optional sub element <elogic> introduced on new element <elecequip> and element <connector>. Optional sub element <nomenc> introduced on element <elecequip> (see wrngdata.xsd)
 - Optional sub element <dsc.econtact> and sub element <dsc.statedes> added to the content models of element <dsc.elecequip> and element <dsc.connector>. Optional sub element <dsc.nomenc> added to the content model of element <dsc.elecequip> (see wrngflds.xsd)

- CPF 2004-58SE: Content models of element `<supequi>`, element `<supply>` and element `<spara>` amended by optional sub element `<remarks>` (see `prelreq.xsd`)
- CPF 2004-59FR: Content model of element `<ipp>` amended by new optional repeatable element `<vas>` to reflect the S2000M definition and use of SID and SNS. Element `<vas>` contains new element `<sid>` and already existing element `<nsn>` (see `ipd.xsd`)
- CPF 2004-64US: Element `<extapp>` introduced to enable the launch of external applications from a process data module (see `interact.xsd`)
- CPF 2004-66US:
 - Group "gen_inc" removed from content model of element `<symbol>` (see `common.xsd`)
 - Element `<applic>` repositioned within content model of element `<procd>` (see `crew.xsd`)
- CPF 2005-06SE: Publication module number element `<pmnumber>` within publication module code element `<pmc>` allowed to be alphanumeric instead of numeric (see `pmc.xsd`)
- Bug fixes:
 - Pattern definitions on attribute `issno` and attribute `inwork` of element `<issno>` corrected (see `base.xsd`)
 - Pattern definitions on attribute `year`, attribute `month` and attribute `day` of element `<issdate>` corrected (see `s1000d.xsd`)
 - Definition of empty element `<unverif>` corrected (see `status.xsd`)
- Consistency: Type of all elements which contain only Parsed Character Data and which have no attributes has been redefined to `type="xs:string"`

3.2.4

Version 2.2.1

Summary of changes for version 2.2.1 of the XML Schema for data modules requested by TPSMG/EPWG:

- CPF 2005-97GB: Type of attribute `xrefid` in the element `<ftnref>` updated to `type="xs:IDREF"` in order to allow a reference to a footnote. (see `common.xsd`)
- CPF 2006-01GB: Occurrence indicators in the complex type definition of elements `<para0>` and `<subpara1>` to `<subpara3>` have been removed in order to have only one element `<title>` per heading level. (see `paras.xsd`)
- Consistency: Element `<notname>` has been defined as mixed in order to enable to specify the notation name inside. (see `brex.xsd`)