

TOPIC-BASED SGML? REALLY?

BALISAGE 2021

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Last year, I got myself a new client...

"Go-to guy for everything markup"

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XSLT, FO, XML standards

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XSLT, FO, XML standards

DITA

"Go-to guy for everything markup"

XSLT, FO, XML standards

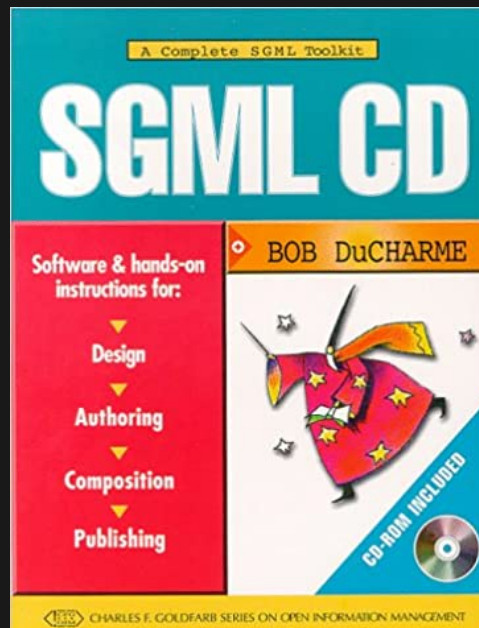
DITA

S1000D

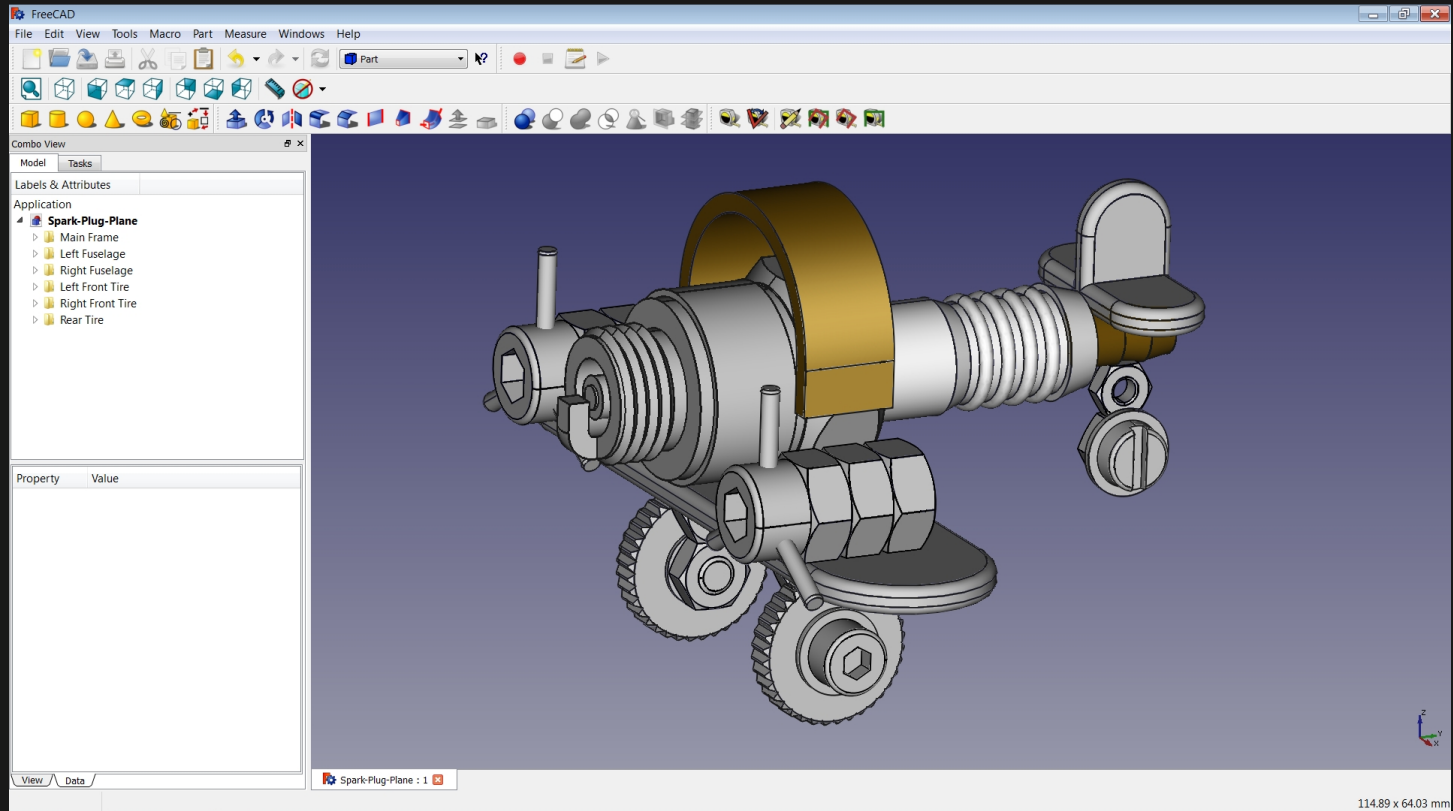
ATA (iSpec 100, 2200)

Chap.	Subject	Chap.	Subject
00	Air Vehicle General	51	Standard Practices – Structures
04	Airworthiness Limitations	52	Doors
05	Time Limits/Maintenance Checks	53	Fuselage
06	Dimensions and Areas	54	Nacelles and Pylons
07	Lifting, Shoring, Recovering and Transporting	55	Stabilizers
08	Levelling and Weighing	56	Windows and Canopies
09	Handling and Taxiing	57	Wings
10	Parking and Mooring	60	Standard Practices – Propeller or Rotor
11	Placards and Markings	61	Propellers and Propulsors
12	Servicing	62	Main Rotors
14	Air Vehicle Loading and Offloading	63	Main Rotor Drives
15	Aircrew Information	64	Tail Rotor
16	Change of Role	65	Tail Rotor Drive
18	Vibration and Noise Analysis and Attenuation	66	Folding Blades and Pylon
20	Standard Practices – Airframe Systems	67	Rotors Flight Control
21	Environmental Control	70	Standard Practices – Engine
22	Auto Flight	71	Power Plant
23	Communications	72	Engine

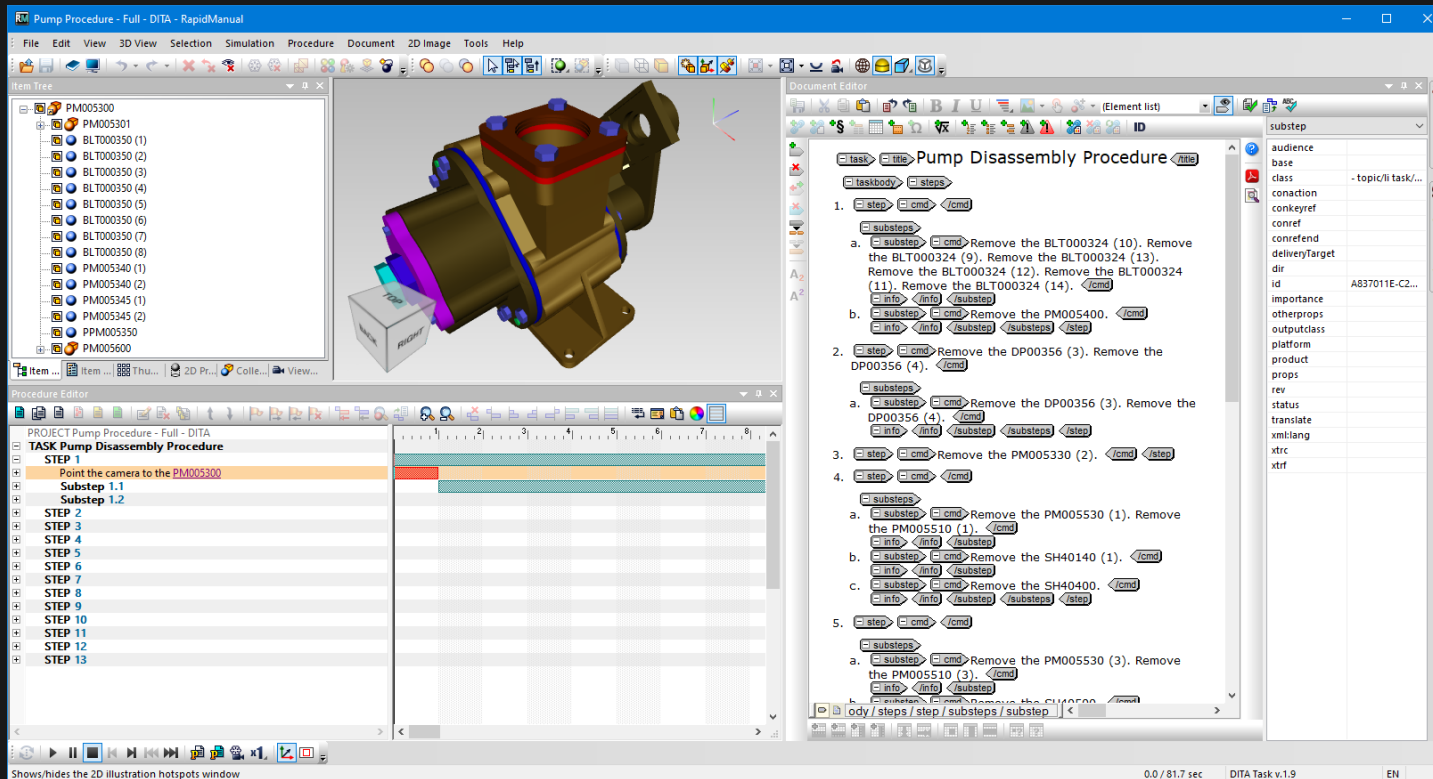
SGML?



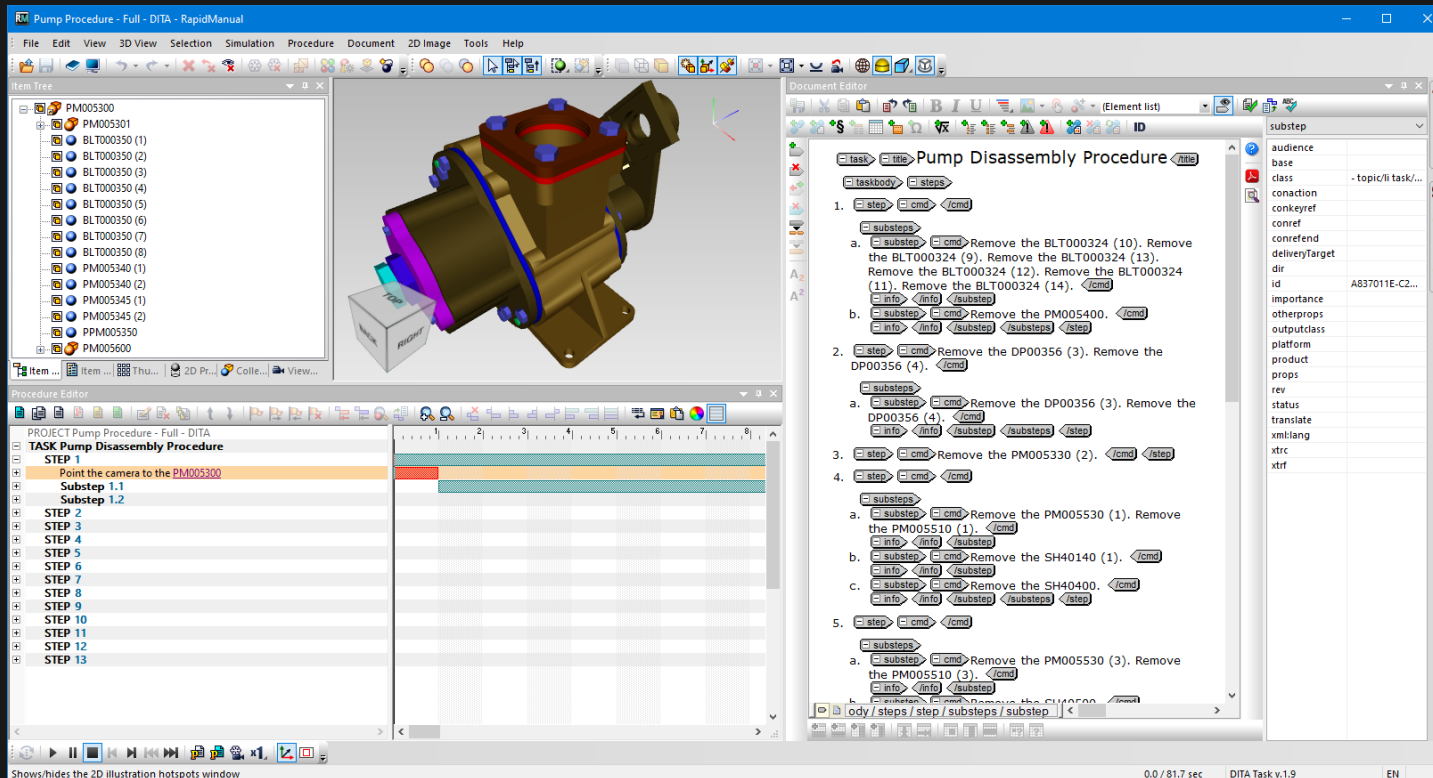
SLM and engineering data



Marry CAD with topics

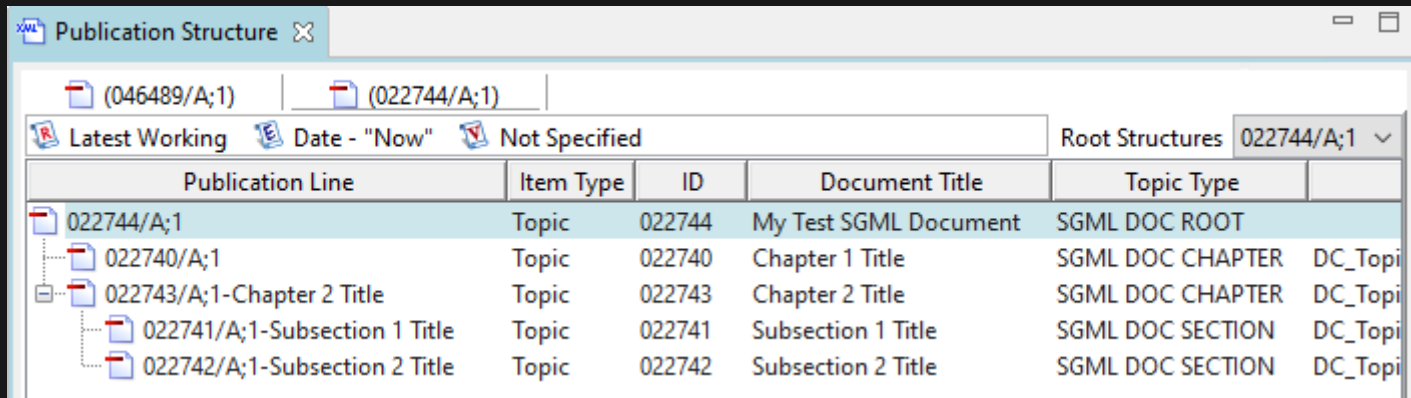


Marry CAD with topics



Enter Siemens Teamcenter

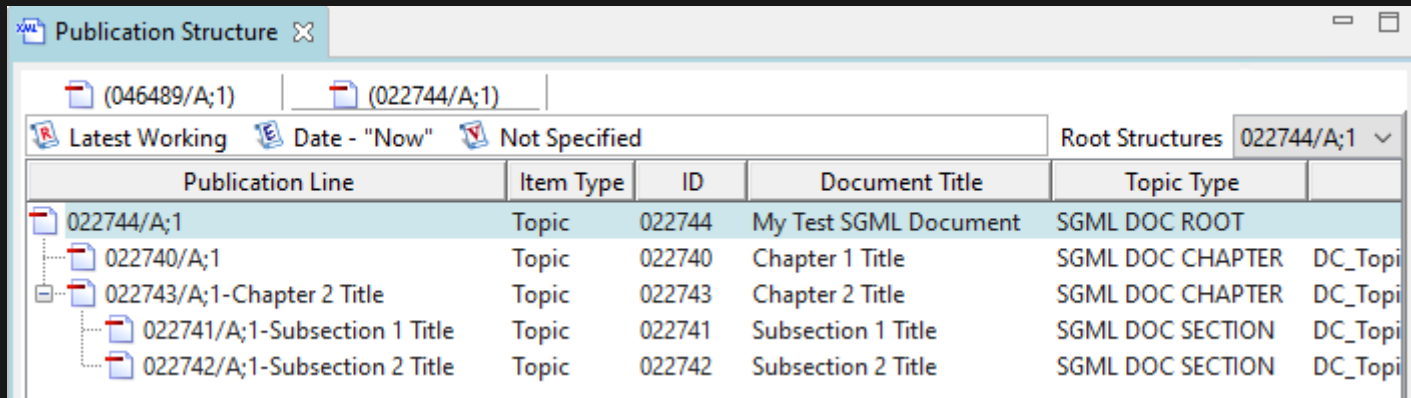
Teamcenter CMS module



The screenshot shows the 'Publication Structure' window in Teamcenter CMS. It displays a hierarchical table of document items. The table has columns for 'Publication Line', 'Item Type', 'ID', 'Document Title', 'Topic Type', and a partially visible 'DC_Topi' column. The hierarchy starts with '022744/A;1' as the root, which contains '022740/A;1' (Chapter 1 Title) and '022743/A;1-Chapter 2 Title' (Chapter 2 Title). '022743/A;1-Chapter 2 Title' further contains '022741/A;1-Subsection 1 Title' and '022742/A;1-Subsection 2 Title'. The 'Root Structures' dropdown is set to '022744/A;1'.

Publication Line	Item Type	ID	Document Title	Topic Type	DC_Topi
022744/A;1	Topic	022744	My Test SGML Document	SGML DOC ROOT	
022740/A;1	Topic	022740	Chapter 1 Title	SGML DOC CHAPTER	DC_Topi
022743/A;1-Chapter 2 Title	Topic	022743	Chapter 2 Title	SGML DOC CHAPTER	DC_Topi
022741/A;1-Subsection 1 Title	Topic	022741	Subsection 1 Title	SGML DOC SECTION	DC_Topi
022742/A;1-Subsection 2 Title	Topic	022742	Subsection 2 Title	SGML DOC SECTION	DC_Topi

Teamcenter CMS module

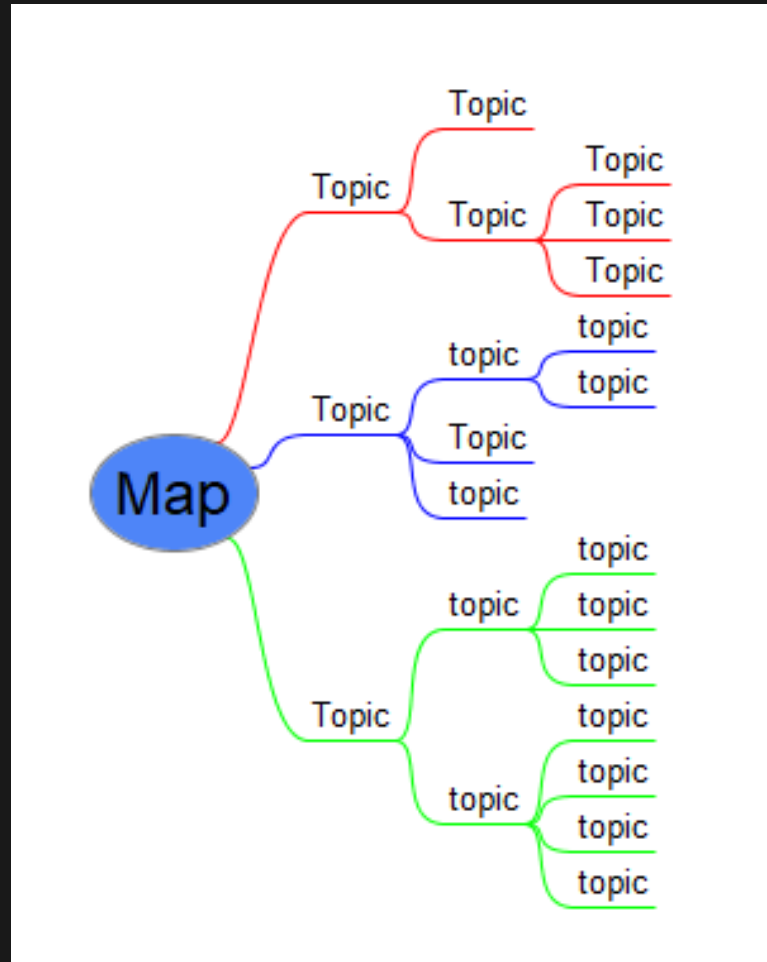


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Publication Line	Item Type	ID	Document Title	Topic Type	DC_Topi
022744/A;1	Topic	022744	My Test SGML Document	SGML DOC ROOT	
022740/A;1	Topic	022740	Chapter 1 Title	SGML DOC CHAPTER	DC_Topi
022743/A;1-Chapter 2 Title	Topic	022743	Chapter 2 Title	SGML DOC CHAPTER	DC_Topi
022741/A;1-Subsection 1 Title	Topic	022741	Subsection 1 Title	SGML DOC SECTION	DC_Topi
022742/A;1-Subsection 2 Title	Topic	022742	Subsection 2 Title	SGML DOC SECTION	DC_Topi



It's all about "*topics*"

Decomposing documents into topics



"XML Attribute Mapping"

▼ XML Attribute Map Table

 Add...  Delete

Attribute Name	Function	Path	Field Separator	Fixed Field Length	Constant Value	XML Procedure
item_id	Reference	/@id				
DocumentTitle	Bidirectional	/title				
graphicPath	Processing Data	/?graphic_part				
graphicPathTarget	Processing Data	/?gpt				
item_id	Reference	/@href				
item_id	Bidirectional	/?item_id				

< >

- DITA, S1000D...
- *"Any XML DTD..."*

...and SGML

THE POWER OF A GOOD SALES TEAM



The client:

- Aerospace manufacturer

The client:

- Aerospace manufacturer
- Already uses Teamcenter

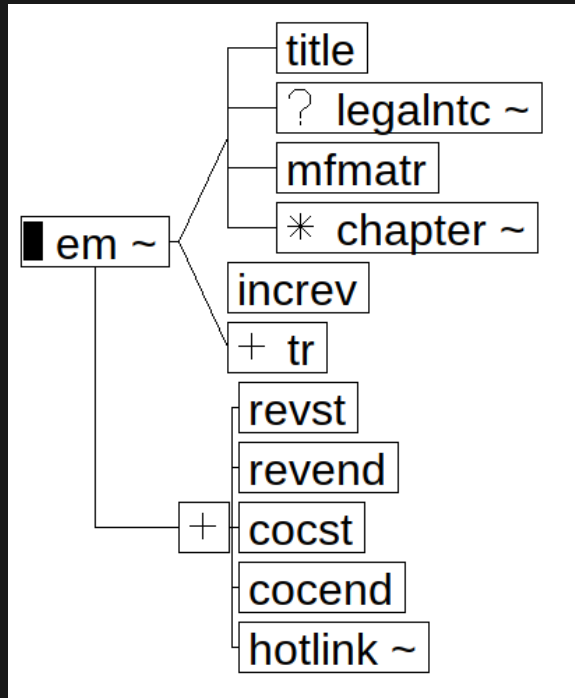
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The client:

- Aerospace manufacturer
- Already uses Teamcenter
- S1000D
- ATA iSpec 2200 SGML

"Yes, Teamcenter supports SGML"



BUT DOES IT REALLY?



No

WHY NOT?





Graphic entities

```
<!ENTITY g5027619-00.cgm SYSTEM "g5027619-00.cgm" NDATA cgm>
```

<!ENTITY name SYSTEM "name.suffix" NDATA cgm>

```
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```

Preprocessing to rename files - didn't want to edit the SGML itself, just the entity declarations and filenames

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<!ENTITY name SYSTEM "name.suffix" NDATA cgm
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Preprocessing to rename files - didn't want to edit the SGML itself, just the entity declarations and filenames

```
<!ENTITY name.suffix SYSTEM "name.suffix.suffix" NDATA cgm
```


DOCTYPE

```
6157      <!ENTITY g5035251-00.cgm SYSTEM "g5035251-00.cgm" NDATA cgm>  
6158      <!ENTITY g5027619-00.cgm SYSTEM "g5027619-00.cgm" NDATA cgm>  
6159  ]>
```

EMPTY elements

```
<PARA>S/B<SBNBR>73-0177</SBNBR>,  
<REVST>Revision 1<REVENDE></PARA>
```

EMPTY elements

```
<PARA>S/B<SBNBR>73-0177</SBNBR>,  
<REVST>Revision 1<REVENDE></PARA>
```

```
<PARA>S/B<SBNBR>73-0177</SBNBR>,  
<REVST>Revision 1</REVST></REVENDE></PARA>
```


Dropping content

```
<SBEFF EFFTEXT="Bolthead at Bolthole No. 15 Facing  
the 12:00 0'clock Position" SBNBR="72-0078" SBCOND="PRE SB">
```

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<SBEFF EFFTEXT="Bolthead at Bolthole No. 15 Facing  
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```

```
<SBEFF EFFTEXT="Bolthead at Bolthole No. 15 Facing  
the 12:00 o">
```

Publishing

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"DSSSL, anyone?"

No DSSSL, (mostly) XML technologies:

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(we already had DITA to HTML stylesheets, so...)

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(we already had DITA to HTML stylesheets, so...)

1. SP for SGML to XML syntax - *"ATA-like XML"*
2. XProc pipeline to convert to *"monolithic DITA"*
3. XSLT to break apart to DITA topics
4. DITA stylesheets

The XML bits were uncomplicated

```
0-em-basic-structure.xml
1-ATA2DITA_main-structure.xsl.xml
2-ATA2DITA_tasks.xsl.xml
3-ATA2DITA_front-matter.xsl.xml
4-ATA2DITA_tfmatr.xsl.xml
5-ATA2DITA_prclists.xsl.xml
6-ATA2DITA_figtopic.xsl.xml
7-ATA2DITA_effectivity.xsl.xml
8-ATA2DITA_chgdesc.xsl.xml
9-ATA2DITA_dates.xsl.xml
10-ATA2DITA_lxlists.xsl.xml
11-ATA2DITA_table.xsl.xml
12-ATA2DITA_lists.xsl.xml
13-ATA2DITA_block-level.xsl.xml
14-ATA2DITA_graphics.xsl.xml
```

Other issues

- Decompose/compose performance
- Editor integration
- (etc)

But far worse still...

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Few of the people involved know SGML

IS SGML (STILL) WORKABLE?

Well, I don't really think so...

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- Few tools support SGML

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- Three (3) production-quality editors still around

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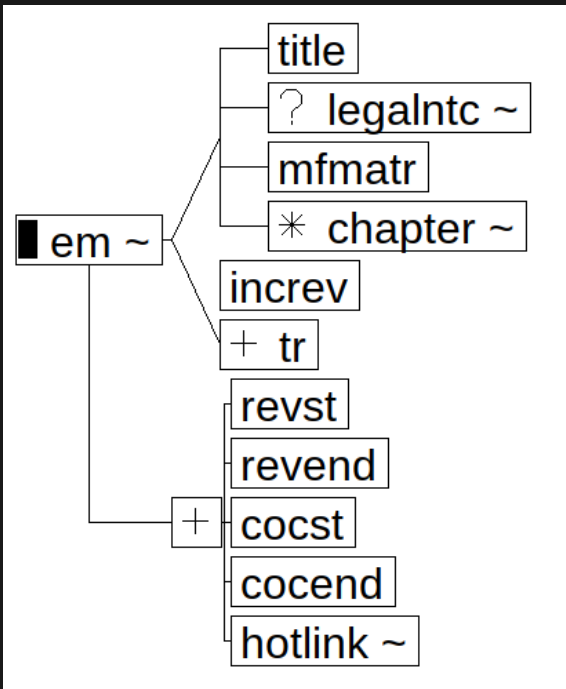
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- Three (3) production-quality editors still around
- Few people know SGML

XML really is

"SGML, the good parts"

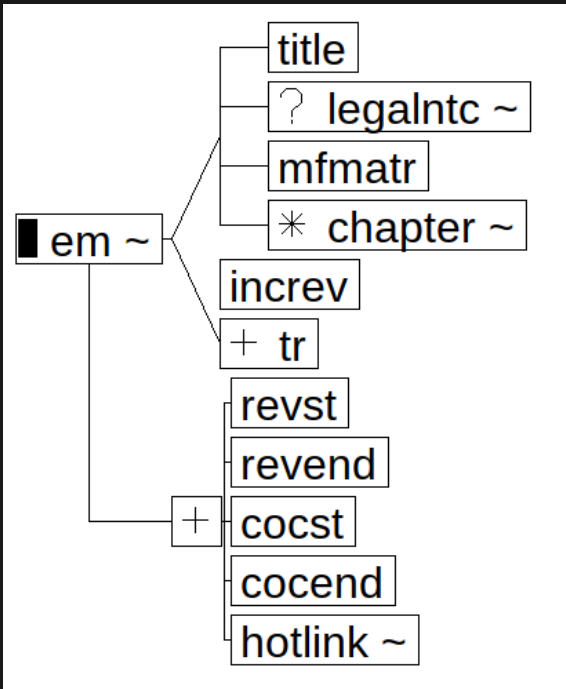
SO, WHAT ABOUT XML?

"ATA-like XML" DTDs

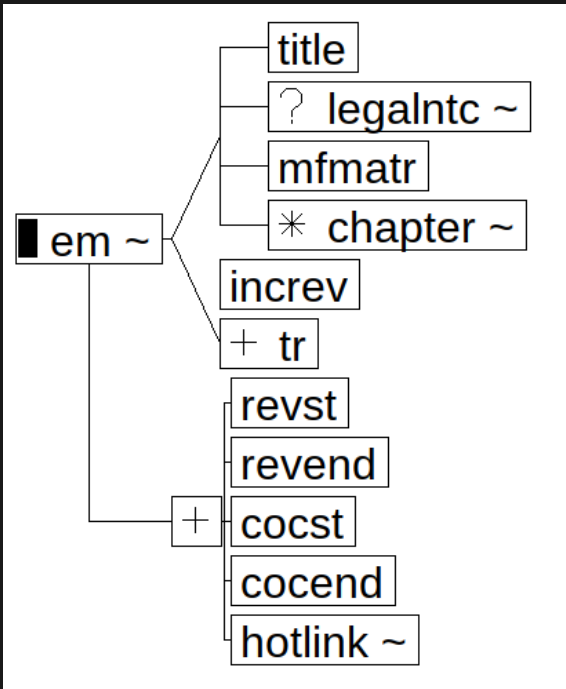


"ATA-like XML" DTDs

- SGML inclusions => PIs

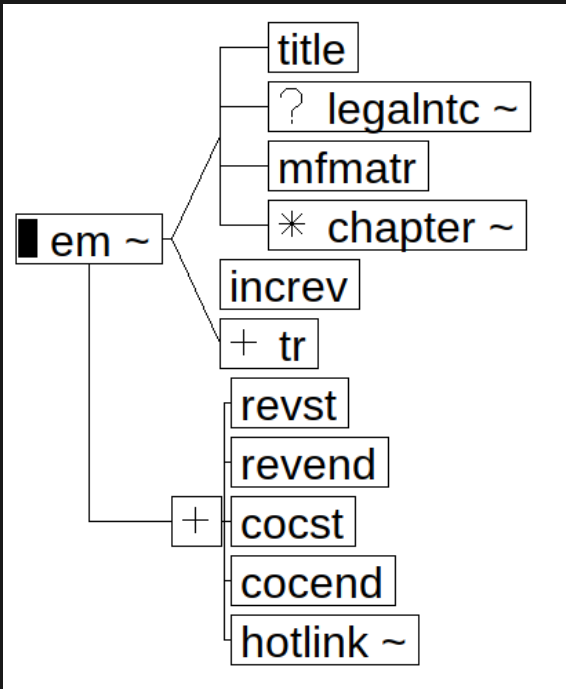


"ATA-like XML" DTDs



- SGML inclusions => PIs
- SGML exclusions => Schematron rules

"ATA-like XML" DTDs



- SGML inclusions => PIs
- SGML exclusions => Schematron rules
- Graphic entities => href links

Publishing and legacy SGML conversion

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We already have both

XML to SGML

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1. Tweak models in XML

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2. Generate SGML DOCTYPE (and entities) in XML

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Bonus feature:

Easily tweak the SGML output to fit different partners, customers

NOW

NOW

They're testing the ATA XML approach as I speak

So, again, SGML? Topic-based SGML?

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Please don't.

THANK YOU!

