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# Topic Maps - Compact Syntax (CTM)

ISO/IEC 13250-6

Review of issues against CTM 1.0 (FCD) dtd. 2008-05-15

Leipzig, 10/2008



# Agenda

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- Won't
  - Iterate through the changes since Oslo 2008
  - Discuss editorial comments
- Will:
  - Discuss (un-)official comments
  - Discuss selected grammar issues not covered by comments



# Predefined Prefix

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- Is it necessary to have a predefined "xsd" prefix? Users can define this prefix if they need it
- Pro:  
Users can type "09-19"^^xsd:gYearMonth without having declared "xsd"
- Contra:  
CTM steals a possible prefix

Solution:  
Predefined prefix is not necessary.  
Remove

# IRI Production

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- Don't have a production for IRIs, which are not embedded into '<' '>'
- CTM references RFC 3987 and specifies via prose that IRIs cannot end with a '.' and ';' (Reason: '.' is used to delimit topics, ';' is used to delimit statements)
- Proposal: Specify a grammar rule for IRIs, i.e.:  
`[a-zA-Z]+[a-zA-Z0-9\+\-\.\]*://((;|\.)*[\r\n\t;\. ]+)+`  
→ Schema name '://' everything which is not a space character

Solution:  
Grammar rule for IRIs!

# Embedded Topics

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- One of the arguments for adding the embedded topic syntax was that this would be very useful for TMCL, and might even remove the need for templates. The new TMCL draft does not use embedded topics at all, and it is not clear that they would be very useful. At the same time, they substantially complicate the implementation of CTM. There seems to be no compelling reason to keep embedded topics.
- Example: `member-of(member: [- "John Lennon"], group: The-Beatles)`

Solution:  
Keep them ☹

# Semicolons

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- Strictly speaking, the semicolons (";") after each statement are not required, and in actual CTM files their appearance is aesthetically not very pleasing. On the other hand, their presence may make finding syntax errors easier for novices.
- Further, semicolons are not used everywhere: Identites do not need semicolons:  
http://psi.example.org/john  
- "John Lennon";  
website: http://lennono.com/.
- Semicolons were introduced for non-SVO languages

Solution:  
Discuss later



# Prefixes in Templates

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- Production template-body allows the prefix directive to occur within a template body. This raises the issue of the scope of the prefix declaration (both for the specification and in the minds of users), and also complicates the grammar slightly. It also makes implementations more complex, and the value of this is disputable at best.

Example:

```
def isa($instance, $type)
  %prefix tm http://psi.topicmaps.org/iso13250/model/

  tm:type-instance(tm:type: $type, tm:instance: $instance)
end
```

Solution:

Remove the prefix directive from tpl

# Topic Template Invocations

- The need for a separate topic-template-invocation is not clear. Why must templates invoked in a topic block be invoked with a parameter when templates outside a template block do not need this?

Example:

Possible:       john works-for(The-Beatles).

Not possible:   john something().

Solution:

Change grammar that a tpl.invocation with no args is allowed within topic blocks (unify prod)



# Mergemap Directive

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1. Are syntax identifiers case-sensitive or not? And is "CTM" or "ctm" the syntax identifier?
2. The "xTM" syntax identifier is not clearly defined. Does this mean XTM 1.0, XTM 2.0, or both? There are no references to other specifications here, making it even more difficult to know what is meant.
3. What happens if some implementors start using, say, "LTM" to mean Ontopia's syntax, and then later ISO updates CTM, defining "LTM" to mean something else? Should ISO reserve parts of the namespace for itself? Or should syntax identifiers be PSIs?

**Solution:**

- Directives should end with a semicolon
- Syntaxes are identified by PSIs
- > XTM 1.0 PSI, XTM 2.0 PSI, CTM PSI, etc...



# Prefix Directive

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- Production [69] "reference" is wrong

Solution:

Decide if the new IRI grammar can fix the production above