

Updates of the QCDml



ILDG11 (Nov.30,2007)

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revised the QCDml twice

- Ensemble1.4.1 (June 03)
 - ✓ anisotropic action, link smearing
- Ensemble1.4.2 (Nov. 04)
 - ✓ a new tag called **publishedAlias**
- Unique Markup Strategy
- Conclusion @ Lattice 2007
- Primary Purpose of the New Tag
- Working Group Proposal
- Discussions and Concluding Remarks

Unique Markup Strategy

- community uses several notations for one action
 - e.g. “kappa” or “mass” for Wilson-type quark actions
 - variety of notations is seen in many actions
- MDWG has so far tried to markup an action, taking one particular notation (**unique markup strategy**)
 - assign a unique name to an action
 - employ one notation and one set of parameter names
 - kappa notation for the isotropic Wilson quark action
 - mass notation for the action is not implemented
 - some of us think that a unique markup is a fundamental design strategy of the ILDG
 - the strategy makes it possible to search ensembles across the ILDG, using name and value pairs as keys.

- the unique markup strategy has slightly been modified recently
 - allow two normalizations of couplings in six link gluon actions (ILDG09)
 - adopt both kappa and mass notations for anisotropic Wilson-type quark actions (ILDG10)
- To what extent we change the unique markup strategy
 - allow **exceptions**, e.g. for the case that the notation is already used by big players
 - **allow several standards**
 - employ notations any group requests

Conclusion @ Lattice 2007

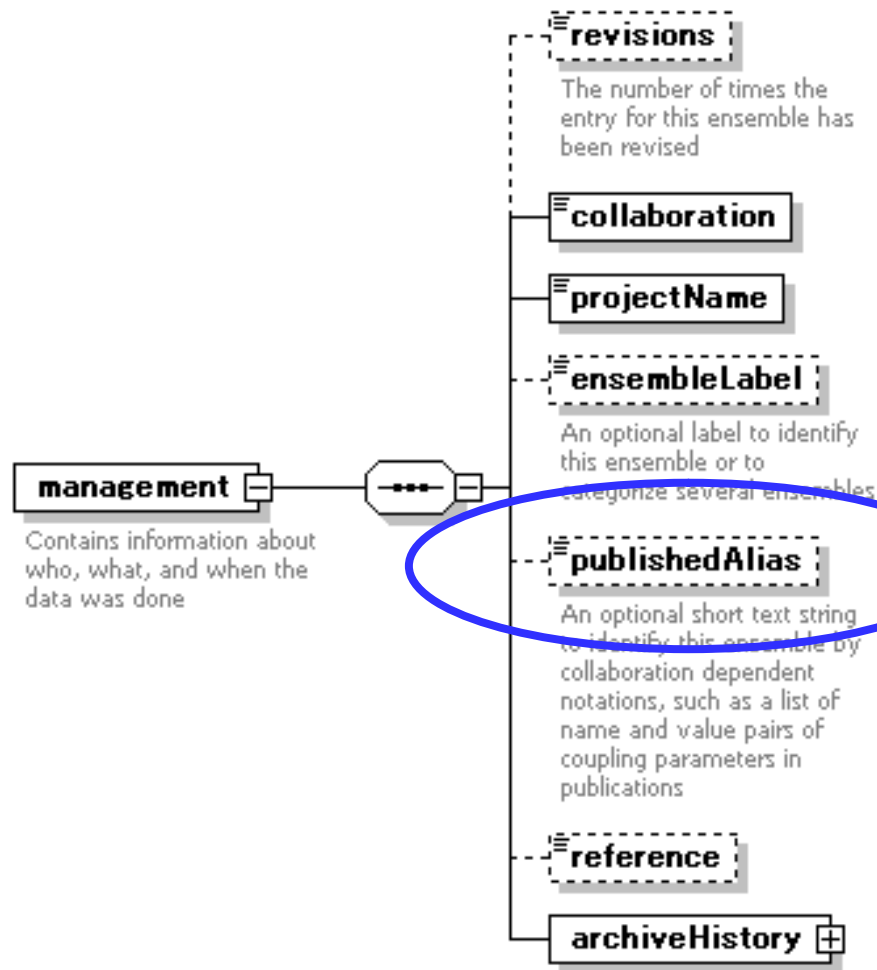
- stay in unique markup and allow exceptions ONLY in special cases
 - we anyhow need standard/reference notation of action to realize ensemble search across the ILDG
- consider adding a new tag to the QCDml, which allows collaborations to record their internal notations, or other collaboration specific issues
 - to improve usability, while keeping the unique markup strategy

Primary Purpose of the New Tag

- Provide a link from literature to ensembles
 - parameter values in literature are in general different from those marked up by the QCDml
 - help users who read a journal paper find/identify ensembles mentioned in the paper
- Possible methods to realize the link
 - mark up parameters as they appear in literature, being contrary to our unique markup strategy.
 - keep the unique markup strategy and develop a tool to translate/convert notations
 - use “a short text string” to identify the ensemble by collaboration dependent notations

Working Group Proposal

- a new tag `<publishedAlias>` in “management”



An optional short text string to identify this ensemble by collaboration dependent notations, such as a list of name and value pairs of coupling parameters in publications

```
<publishedAlias>  
  beta = 6.458,  
  amud = 0.0082,  
  ams = 0.082  
</publishedAlias>
```

Comments for related tags

- `publishedAlias` (optional)
 - pointer from literature to ensembles, e.g. a list of parameter values of this ensemble
- `ensembleLabel` (optional)
 - an optional label to identify this ensemble, or categorize several ensembles, e.g.
`<ensembleLabel> medium coarse </ensembleLabel>`
- `projectName`
- `collaboration`
- `Note an inclusion relation`
- `reference` (optional)
 - `<reference> Phys. Rev. D... </reference>`

Discussions

- We have agreed (or compromised) to insert the new tag <publishedAlias>
- some of us (three of six active members) had expressed objections to this idea
- contrary to the principle of XML
 - the whole point of XML schema is to define the set of rules to describe data, so that applications can process the data. Data in this case are coupling parameters. Then, the right path is to develop an application for conversion, not to add a free text string which cannot be processed by applications.
 - the new tag does not harm the QCDml, because it contains only extra data beyond the structured markup

- whether the new tag is useful
 - Linking literature to ensembles by the free text string does not work effectively, because the text can only be displayed by browsers and cannot be parsed.
 - displaying the text still helps users. Looking around an ensemble list is one of usual ways to access the ILDG archive. When one shows details of ensembles by clicking the list, he/she can see coupling values as they appear in published articles. This is a use-case.
- difficulty in developing and using conversion tool
 - For conversion tool, we have to list up notations used in this community, assign names to notations and define conversion rule one by one. The work cannot be easily completed.
 - how users determine the name of notation used in a journal paper

Concluding Remarks

In order to come to a compromise on the new tag, working group members agreed to remember

1. adding a free text string to XML is not a proper way
2. we insert the new tag as a necessary evil
3. we try to develop a conversion tool for feasibility study

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