

Status Report from Metadata Working Group

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Status Schemata

- ❑ Current revision: **QCDml1.1**
- ❑ No changes since ILDG5 → **Schemata stable**

Still no (serious) problems found!

How many real ensembles have been marked-up?

- ❑ Actions:

Gluon: plaquette, IwasakiRG, DBW2

Quark: KS, asqTad, Wilson, Clover, DW, Overlap

- ❑ Open issues:

- ☞ Add further actions (e.g. Lüscher-Weisz glue, tmQCD)
- ☞ Complete documentation

Binary File Format

Goal:

Define a structured file format which allows to encapsulate, in an extensible way, binary data and metadata within a single file.

Proposal MDWG:

- ❑ ILDG binary files contains (at least):
 - `ildg-format` XML document with parameters useful for reading
 - `ildg-binary-data` Binary data
 - `ildg-data-LFN` Logical file name (dataLFN)
- ❑ For packaging: **LIME** file format

LIME File Format

- ❑ Developed by SciDAC
- ❑ LIME file consists of one or more **messages**
- ❑ Each message consists of one or more **records**
- ❑ A record contains ASCII or binary data
- ❑ Implementation and documentation:
`http://www.physics.utah.edu/~detar/scidac/lime-1.1.tar.gz`

File Structure

message	record	LIME record type
#1
...
#n
	#i	ildg-format

	#j	ildg-binary-data

...
#m	#1	ildg-data-LFN
...

Rules:

- Groups are free to introduce their own messages/records
- The first part of the LIME type strings identifies a namespace.
- Each group should have a unique namespace registered with ILDG.
- The order of the messages #n and #m is not fixed
- The record ildg-format has to precede the record ildg-binary-data

ildg-format

Example:

```
<?xml version="1.0" encoding="UTF-8"?>
<ildgFormat>
  <version> 1.0 </version>
  <field> su3gauge </field>
  <precision> 32 </precision>
  <lx> 20 </lx> <ly> 20 </ly> <lz> 20 </lz> <lt> 64 </lt>
</ildgFormat>
```

Comments:

- Extension to other objects foreseen (e.g. propagators, eigenvalues)
- Different precisions allowed (e.g. 32 bit or 64 bit)
- Endianess is fixed to big

Outlook

- ❑ All users are invited to communicate needs and comments concerning QCDml1.1
- ❑ Binary file format which meets (hopefully!) needs of community is proposed → **final decision should be made a.s.a.p.**