



Metadata working group

The form of the action

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Introduction

- Describing the **action** is rather important
 - Searching/using data from other groups
- What **information** do we wish to record
- What is the **structure** of the metadata
- How to make this **extensible** to other data



Two schools of thought

- Members of WG have been split over two basic strategies
- **Minimal** approach
 - Keep schema **simple** as possible
- **Maximal** approach
 - Keep schema **general** as possible

No prizes for **guessing** which side I'm on



Pros and cons

- Simple schema is **easy to write**
 - Easy for **people** to understand
 - Easy to write applications to use schema
 - Outline in fake XML ID
- General schema is more **extensible**
 - More **flexible** for describing other data
 - Users don't see schema anyway
 - **UKQCD schema** Pictures from *XMLspy*



Common to both strategies

- Separation of system size from action
 - Boundary conditions are a property of fields
- Properties of fields are important
- Name of the action
 - Attribute. No unique definition
 - Abstract element `<action/>`
 - Substitute with `<clover_wilson/>`



Action definitions

- UKQCD schema has more structure
 - `<operator/>`
- Either strategy what *name* defines action
- Math definition **cannot** go into schema

Propose each QCDML defined action has corresponding **math definition** on ILDG web pages

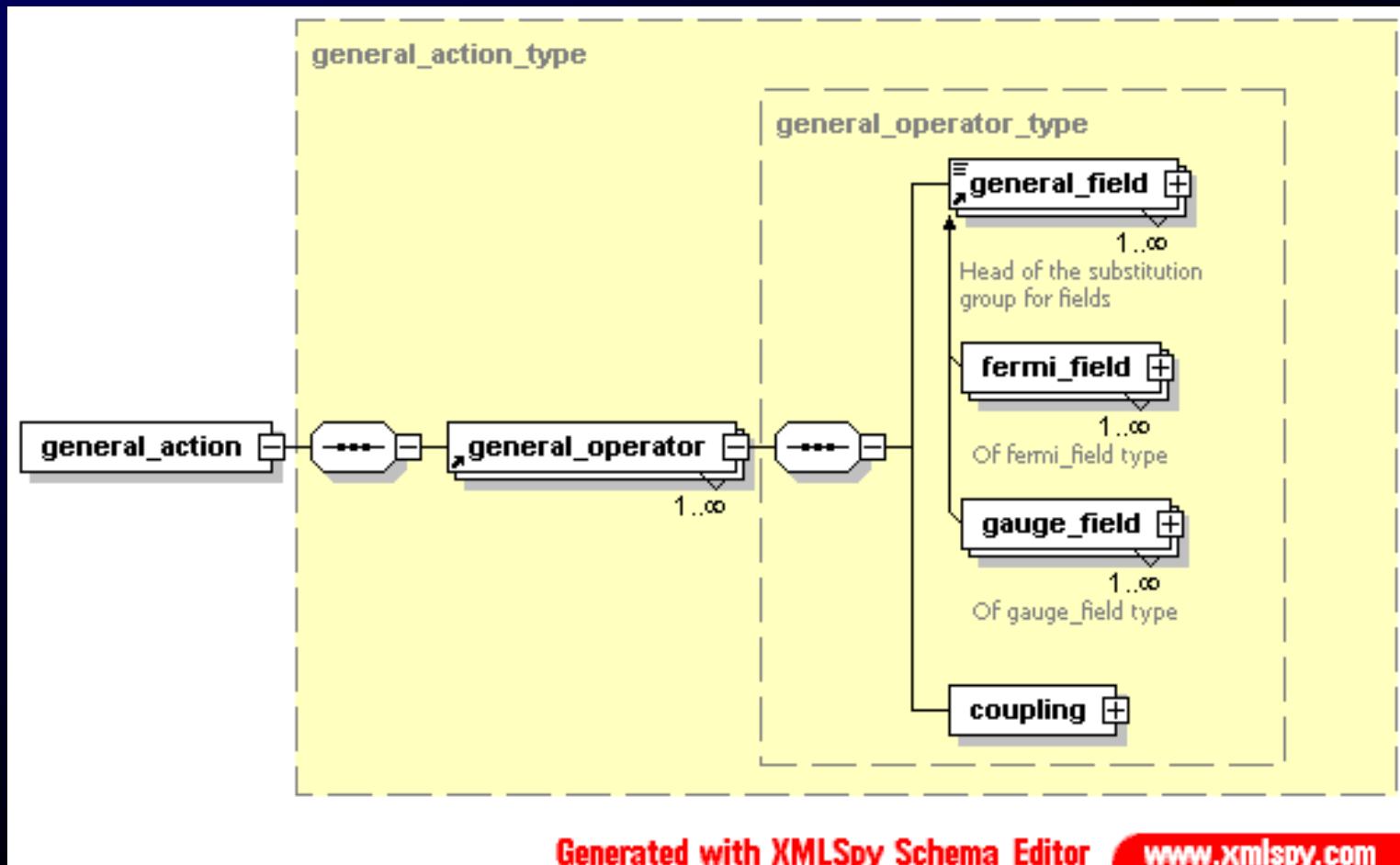


Simple schema

- `<quark/>` **and** `<gluon/>`
 - **Contain field information and**
- `<action/>` **is a sequence of**
`<coupling/>`
 - **Name and value**
- **Works for simple actions**
- **Is it extensible to complex ones**
 - **E.Asqtad + variants**

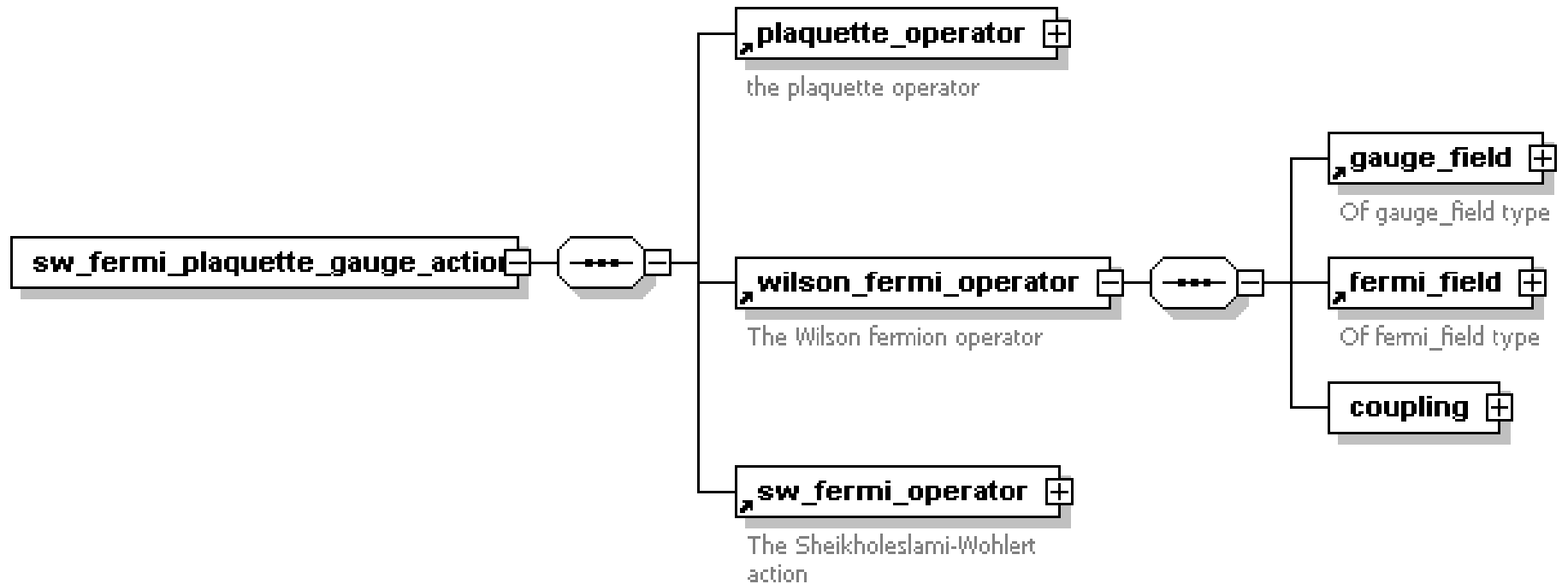


General schema





Specific action



Generated with XMLSpy Schema Editor www.xmlspy.com



Advantages

- Any action can be described this way
 - Asqtad + variants
- Follows the structure of the data
 - Extensible to other data
 - General structure that is not case specific
 - Schema is quite long
 - XML is verbose
- This is important
 - Don't want to have to re-write everything when we start to describe propagators and correlators



Criticism of UKQCD schema

- It is too complicated for users
 - users will **never see** the schema
 - Metadata IO API follows schema (BJ talk)
 - ILDG metadata WG have to know schema
- Large, complicated schemata are difficult for API's to handle
 - UKQCD schema isn't that complicated
 - Already being used **IT WORKS**



UKQCD schema

- Uses the **action** description in the description of the algorithm
- Can show more of **UKQCD schema**
- Demo UKQCD Grid **Metadata browser**