DE LA RECHERCHE À L'INDUSTRIE

SG43:
CODE INFRASTRUCTURE TO SUPPORT A GENERAL NUCLEAR DATABASE STRUCTURE (GNDS)

WPEC-SG43 Meeting, 16/05/2017 | Fausto MALVAGI, Caleb MATTOON, Jeremy CONLIN

FROM ENDF TO GNDS

Before

- **SG-38** (2013-2017): Beyond the ENDF Format
  - Four Documents
    - Detailed ***Requirements*** for a next generation ***nuclear data structure*** (Final version – June 28, 2016)
    - Requirements and specifications for a ***Particle Database*** (draft – 5 May 2015)
    - General-Purpose ***Data Containers*** for Science and Engineering (draft – 4 May 2015)
    - ***Specifications*** for the next generation nuclear data hierarchy (draft – May 2016)

Now

- **EG-GNDS** (Long Term) Expert Group on the Recommended ***Definition*** of a General Nuclear Database Structure (GNDS)
- **SG43** (2017-2020) Code ***infrastructure*** to support a modern general nuclear database (GND)

THE SG43 MANDATE

Goals

- To define an interface (API) for reading/writing GNDS
- To define checks to “validate” new evaluations

Stretch Goals

- To develop and share implementations of:
  - Reading/writing tools for evaluation manipulations
  - Visualization tools
  - Tools to assist with uncertainty quantification (?)

- To develop and share implementations of
  - Checking tools

GETTING STARTED

Who are our users?

- Evaluators
  - Empire, Talys, Sammy, Conrad, …
- Processing codes
  - FUDGE, NJOY, AMPX, GALILEE, …

Questions to answer

- What implementations do we target?
  - XML/HDF5
- What languages for the API?
  - Python; C++(11/14?); Fortran(95/…/2015?); Java?

How do we organize ourselves

- Subgroups?
- Meetings (more than once a year in Paris?)
- Collaborative space?
- Where to host implementations?

THANK YOU FOR YOUR ATTENTION