Digital Object Identifiers (DOI’s) for nuclear data

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osti.gov and datacite.org want DOI’s on all nuclear data in US; likely by end of FY14

- DOI’s are unique id’s on a publication/dataset
  - NNDC will generate them for NNDC-generated data
  - If CSEWG & USNDP OK, we will assign DOI’s for all US nuclear databases
  - We decide on URL scheme
  - We provide a permanent URL to a dataset, datacite.org maintains the DOI->URL redirect
  - We promise to maintain URL’s forever (or provide tombstone)

- This is a very good thing
  - Gives proper credit to evaluators
  - Generates citations (always good for performance appraisals)
How does this affect us?

- **ENDF borrows from other libraries**
  We’d like to be able to give proper credit; e.g a JAEA DOI for a JENDL-4.0 derived evaluation rather than an NNDC DOI.

- **What about partial evaluations?**
  Fine grained DOI’s (i.e. on evaluation parts) allow us to make Frankenevaluations with proper attribution.

My $^{90}$Zr evaluation, part ENDF, part JENDL-4, all ugly
For ENDF/B series libraries, these are my first thoughts

- For legacy libraries (ENDF/B-I through VI)
  - These were distributed in tapes (real or virtual)
  - Each tape provided updates to your center’s copy of the library
  - MAT’s, MT’s and MF’s all jumbled
  - Records of what is on what tape and when they were released not easily recoverable
  - Released data != what we see on web
  - **Proposed solution:** One DOI for each release of a library

- One material, zero or one projectile
- Clear release procedures
- ENDF format does have clear structure, so could give DOI’s for each MF/MT, but we can’t tell who evaluated which part
- **Proposed solution:**
  - One DOI for each evaluation
  - Need DOI’s from other centers

- For libraries in new (GND?) format, we are making solution
  - Clear hierarchy means deep URL’s
  - **New requirement:** DOI for each URL as needed for proper attribution (see cartoon on next page)
A proposal: DOI references in GND

Monolithic evaluation; one DOI only

Frankenevaluation (built from other evaluations); DOI’s for each unique contribution, linked to URL of contribution

One DOI, linked to URL of top node of evaluation

Four DOIs, each linked to URL of top node of individual contribution
Issues

- Can other centers acquire DOI’s for the data they are responsible for?
- Can other centers ensure that the URL’s for their data (or tombstone pages for their data) are maintained “forever”?
- How should NNDC handle DOI’s for borrowed evaluations and frankenevaluations?
  - Option #1: take unilateral action and NNDC picks DOI’s for all data
  - Option #2: delay delay delay until other centers ready
  - Option #3: ???