WHO Integrated Data Platform (WIDP)

IT Challenges and solutions of a global platform

DHIS2 Annual conference, Oslo, 18 June 2019
METADATA PACKAGING & SYNC CHALLENGES
WIDP: Metadata packaging & sync challenges

- Multiple instances, different users, different purposes, a single metadata
WIDP: Metadata packaging & sync challenges

- Packaging Tools: Advanced Metadata Export
  https://github.com/WISCENTD-UPC/Advanced-Metadata-Export
WIDP: Metadata packaging & sync challenges

- Packages repositories:
  - WHO Country support packages
    - Check the presentation on Sched: Implementing the aggregate WHO metadata packages. Lessons learned
  - WIDP packages:
    - Goal → Store comparable json files with version tracking
    - Git repository
    - Now in process of standardization
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- WIDP packages:

WHO metadata packages

- 124 commits
- 4 branches
- 0 releases
- 2 contributors
- GPL-3.0

This branch is 123 commits ahead, 1 commit behind master.

- AA_common: 1.0.3 - New userRole Individual Data Use and Authority added to Dashb...
- EDA: update eta version
- MFP: Merge branch '2.30' of github.com:SysyTea/WHO-packages into 2.30
- HWF: Implement changes in Other indicators in Module 1 tab
- NTD: NTD / Leish / Stock / updated BGD and NPL HFs
- ZZ_common: common divided into AA_common and ZZ_common for files that have to be...
- LICENSE: Initial commit
- README.md: Initial commit
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- **Major challenges**
  - some actions are considered as modifications should not be considered as modifications
  - how to have different configurations of same metadata
  - missing dependencies map

- **Minor challenges**
  - metadata exports does not have a specific order
  - several incoherences importing metadata
    - maps, indicatorGroups, (indicators & mapViews have to be imported first)
  - translations getting duplicated in each modification
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- Command-line tools
  - jcat → python CL utility to work with json files
    - Main features:
      - json files join
      - Ordering per level (for plain text packages comparison)
      - Replacing UIDs and strings
      - Filtering to extract structures
      - std output can be piped and chained
  - change_user_groups → python script to alter sharing settings on jsons
    - Main features:
      - Change user accesses and user group accesses to certain elements of a package
      - Remove OU references
      - Replace

- +info: https://github.com/EyeSeeTea/ESTTools
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- Sync:
  - Instances cloning:
    - python script with actions and post-clone actions that can be customized on a per-instance basis.
    - from a subset of embedded actions or shell scripts, SQL scripts and API modifications
  - Weekly:
    - PROD → TRAINING (no data)
    - PROD → PREPROD
    - DEV → DEV-CONT (build upgrade)
  - Examples of post-actions:
    - Bring last war file from builds repository
    - Add run analytics user role to some users
    - Import a new version of a metadata package
Sync:
- Instances cloning:
Sync:

- Instances cloning:
WIDP: Metadata packaging & sync challenges

- Metadata repository and instance synchronization
  - Different users are changing different parts of metadata in different instances (e.g., PROD and DEV)
    - indicators, indicator groups, dashboards,...
  - Keep metadata of all instances in synch
    - Pushing metadata from DEV to PREPROD and PROD - on demand
    - Pushing new/changed metadata from PROD back to DEV - periodically
  - Keeping a centralized repository of master (production) metadata available.
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- User management across instances
  - Advanced-Export App for “propagating” new users to the different WIDP instances
  - **User Extended App** for users management and sync
  - Cloning script to activate/deactivate/modify users
Takeaways for metadata packaging & sync

- A complex, but common scenario is to sync only parts of the metadata
- Lack of appropriate dependency map for the different metadata objects
- Metadata versioning would make our life easier
- Metadata audit logic should be split
  - Sharing Settings or OU assignment shouldn’t probably be recorded as a metadata update
- Non IT admins don’t have interfaces in core DHIS2 to manage packaging and sync individual pieces of metadata
- We would like the community to open discussion and share experiences [https://community.dhis2.org/t/metadata-packaging-sync/36253](https://community.dhis2.org/t/metadata-packaging-sync/36253)
- We seek for the creation of a community repository to share tools and scripts