9th SDMX Global Conference
Empowering Data Communities

Importance of SDMX tools interoperability: FMR and .Stat Suite example

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High level architecture
SALSA Integration model

- **FMR**
  - Manage SDMX Artifacts
- **Swagger**
  - Import data & Metadata
  - Cleanup OS/DF
  - Delete data
  - PointInTime (restoration)
  - Status requests
  - Transfer DF by space
- **SQL**
  - Access to DB limited
  - Read only by default
  - Write for interventions
- **DLM**
  - Manage SDMX Artifacts
  - Manage Data & Metadata
  - Logbook
  - Manage Spaces
  - File limit 30 MB OR
  - Use of sharedfolder
- **Gitlab**
  - Import & Export Data Calculations
  - Migrate data Transformation & Validation
- **CSVConvertor**
  - Transform & Map data to CSV-ML format
- **Excel**
  - Manage Data
  - Manage Metadata
  - Query builder
- **VTL Suite**
  - Validate Data
  - Transform Data
- **AutoSYS**
  - Load data from tsunami
  - Automated Load of data
- **.STAT Suite API’s**
  - Manage Data & Metadata
- **Data Explorer**
  - View of Data & Metadata
  - Landing Page
  - Search Function
  - Export Data
  - Export Metadata
  - Export SDMX Artefacts
- **NSI-WS**
  - Manage Data & Metadata
- **SALSA MANAGER**
Maintenance of SDMX Artefacts

SDMX Artefacts using “BE2” agency

- Created and maintained by SALSA administrators
- Used in ALL Spaces
- COP (community of practice) per domain

Official Artefacts (ECB, Eurostat,...)

- Maintained by SALSA-administrators
- in spaces where needed

Other SDMX Artefacts

- Data owners can create artefacts using “own” agency
  - For example, “NBBSF” “NBBCN”
- No support by SALSA-administrators
- Only for internal use
Maintenance of SDMX Artefacts

NBB User Requirements:

✓ User-Friendly
✓ Non-SDMX Experts
✓ Wizard mode
✓ Manual manipulations
✓ Multiple spaces
✓ Direct link with .STAT Suite
✓ Only SDMX Artefacts – No Data

.STAT Suite is our central storage for SDMX Artefacts used in multiple Applications
Catalyst for increased collaboration

- Define requirements, test, and implement first MVP of the FMR Workbench
- Integration of FMR Workbench in the .Stat Suite package
- FMR Workbench tool based on the existing FMR tool
- Open the collaboration to the SIS-CC Community
SIS-CC (“the Community”) is a reference open-source community for official statistics, focusing on product excellence and delivering concrete solutions to common problems through co-investment and co-innovation.
.Stat Suite open-source platform

- **.Stat Data Explorer**
  - *to explore data* and develop various reporting and dissemination experiences

- **.Stat Core**
  - *‘SDMX-native’*, building on best practices in statistical data modelling.

- **.Stat Data Lifecycle Manager**
  - *to manage the (macro)data lifecycle* for official statistics (design, collect, process, disseminate).
Component-based Architecture > Cooperative “Business Model”
The BIS Fusion Metadata Registry project

- BIS owned and developed
- **BIS Open Tech** initiative – platform for sharing statistical and financial software as public goods
- Free and open source (permissive Apache 2.0 licence)
- FMR 11 is SDMX 3.0 compliant
- Used extensively within the BIS, for the SDMX Global Registry, for the IMF SDMX Central and by institutions worldwide
- Distributed through [https://sdmx.io](https://sdmx.io)
- Java webapp – runs on any platform
- [Docker image available](https://sdmx.io) – quick start in 10 minutes
Main FMR use cases

**Centralise and govern statistical metadata**
- Externalise and centralise metadata
- Metadata governance – gain control
- Improve metadata maintainability
- Metadata reuse
- Harmonisation of concepts

**Data collection**
- Publish structural metadata for data reporters
- Generate Excel data reporting forms
- Validate received datasets

**Data reporting**
- Validate SDMX data prior to submission
- Convert data between SDMX formats
- Data mapping – transform data to the collector’s DSD

**SDMX structures authoring / maintenance**
- Create and modify SDMX structures interactively using the web user interface
- SDMX REST API for automation
FMR vs FMR Workbench

<table>
<thead>
<tr>
<th>FMR</th>
<th>FMR Workbench</th>
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<tbody>
<tr>
<td>Common SDMX structural metadata registry engine and UI</td>
<td>Delegates persistence to decoupled SDMX structure repositories (Spaces)</td>
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<tr>
<td>Integrated persistence (MySQL, MS SQL Server, Oracle SQL)</td>
<td>Can sync with other FMR instances</td>
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<tr>
<td>Works with any space compliant with SDMX v1 or v2 REST API</td>
<td>Delegates persistence to decoupled SDMX structure repositories (Spaces)</td>
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Integrated persistence (MySQL, MS SQL Server, Oracle SQL)
How far have we gone? What’s next?

- The first release of the FMR Workbench is under testing
  - FMR Workbench online (fwb.sdmxcloud.org)
  - Docker installation possible
- Tickets with findings will be added on GitHub

- Ongoing FMR Workbench User Group
  - Coordinated by NBB
  - BIS and SIS-CC participating
- Next: User Group to convene for prioritizing the tickets
Thank you for your attention!