SDMX 3.1 & New Services for FAIR SDMX

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SDMX 3.1

Addressing High Dimensionality

Use Case

Support a dataset that is:

- Highly disaggregated (multi-dimensional)
- Expected to have further breakdowns regularly added in the course of use
- Will be used for both reporting and dissemination

Structures in support of such datasets are often called horizontally complex due to a large number of breakdowns they must implement – like a table with many columns.

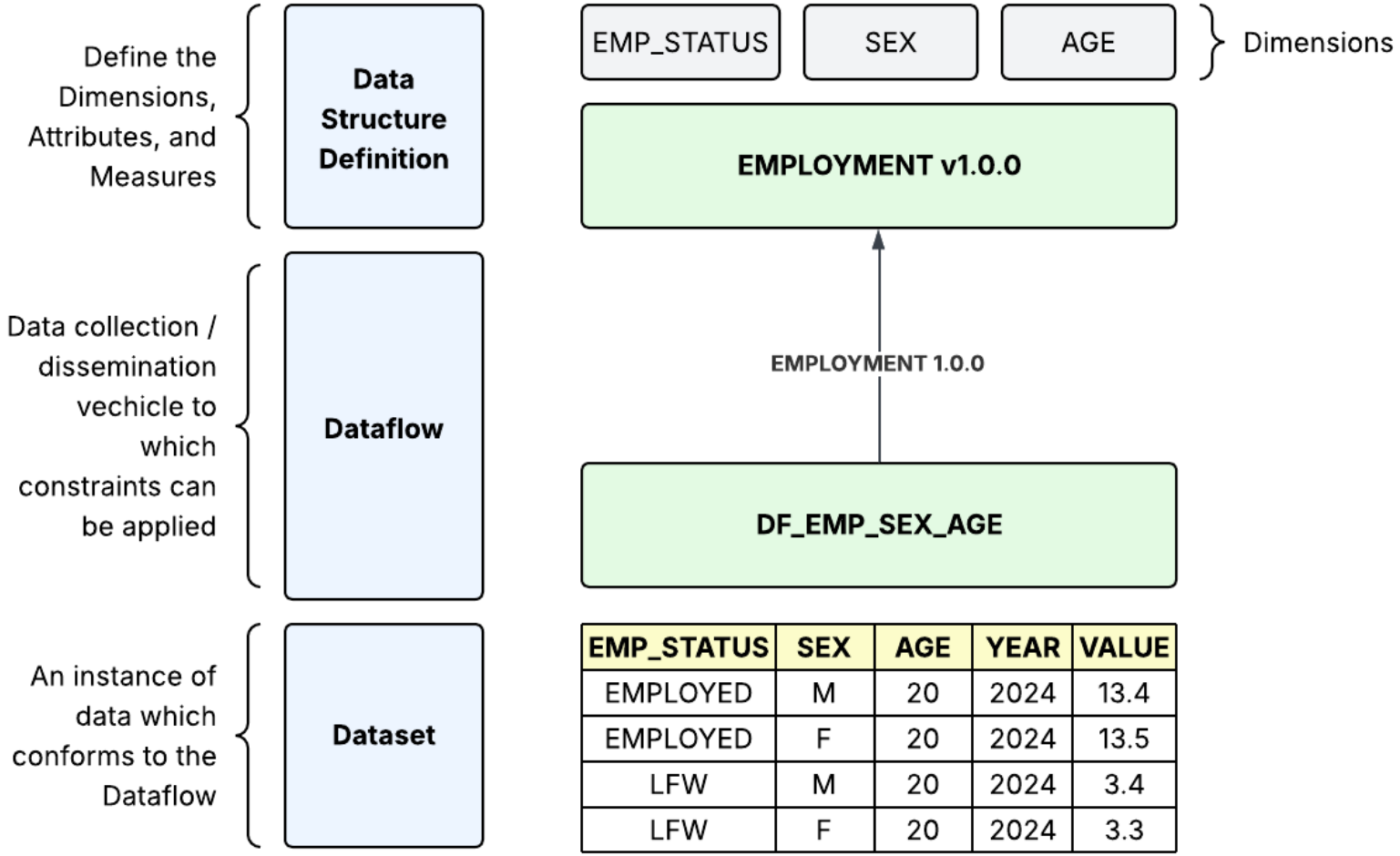
Horizontal complexity: current challenges

- High cost of implementing multi-dimensional structures
  - Both reporters and users must update their mappings every time a dimension is added, even if not relevant to dataflows they use
  - Prolonged development times of reporting DSDs as their designers attempt to obtain as complete information as possible on future requirements
- Workarounds needed to cope with high and changeable dimensionality
  - Mixed breakdowns make the DSD slightly easier to maintain
  - However, they are more difficult to use and generally make reporting DSDs poorly suited for dissemination
- Result: reporting DSDs that take long to develop, are hard to maintain, and difficult to use in particular for dissemination

New in SDMX 3.1

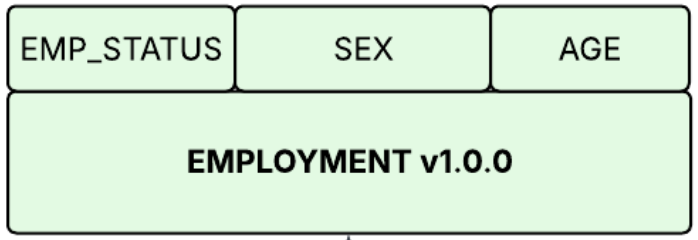
- Breakdown dimensions can be added without affecting existing dataflows
  - Low cost of adding new breakdowns
    - Faster, agile development of reporting structures
  - Clean concepts and code lists
    - Improved interoperability and usability
  - Data structures well suited for both reporting and dissemination
    - Reduced reporting burden

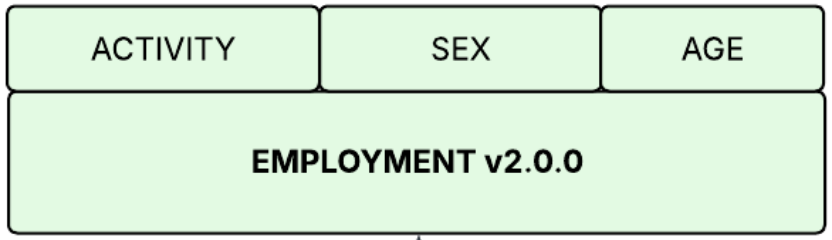
SDMX 3.0 – Simple DSD

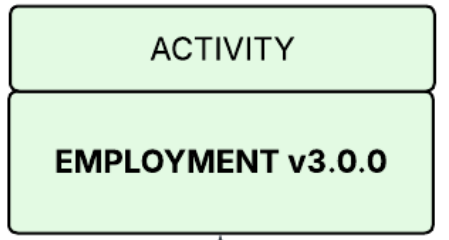


EMP_STATUS	SEX	AGE	YEAR	VALUE
EMPLOYED	M	20	2024	13.4
EMPLOYED	F	20	2024	13.5
LFW	M	20	2024	3.4
LFW	F	20	2024	3.3

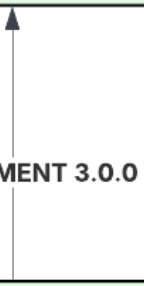
SDMX 3.0 – Simple DSD with variants







Dimensions



DF_EMP_SEX_AGE

EMP_STATUS	SEX	AGE	YEAR	VALUE
EMPLOYED	M	20	2024	13.4
EMPLOYED	F	20	2024	13.5
LFW	M	20	2024	3.4
LFW	F	20	2024	3.3

DF_EMP_ACTIVITY_SEX_AGE

ACTIVITY	SEX	AGE	YEAR	VALUE
FORESTRY	M	20	2024	1.3
FORESTRY	F	20	2024	0.3
FISHING	M	20	2024	0.5
FISHING	F	20	2024	0.2

DF_EMP_ACTIVITY

ACTIVITY	YEAR	VALUE
FORESTRY	2024	1.6
FISHING	2024	0.7
MANUFAC	2024	3.4
FARMING	2024	0.6

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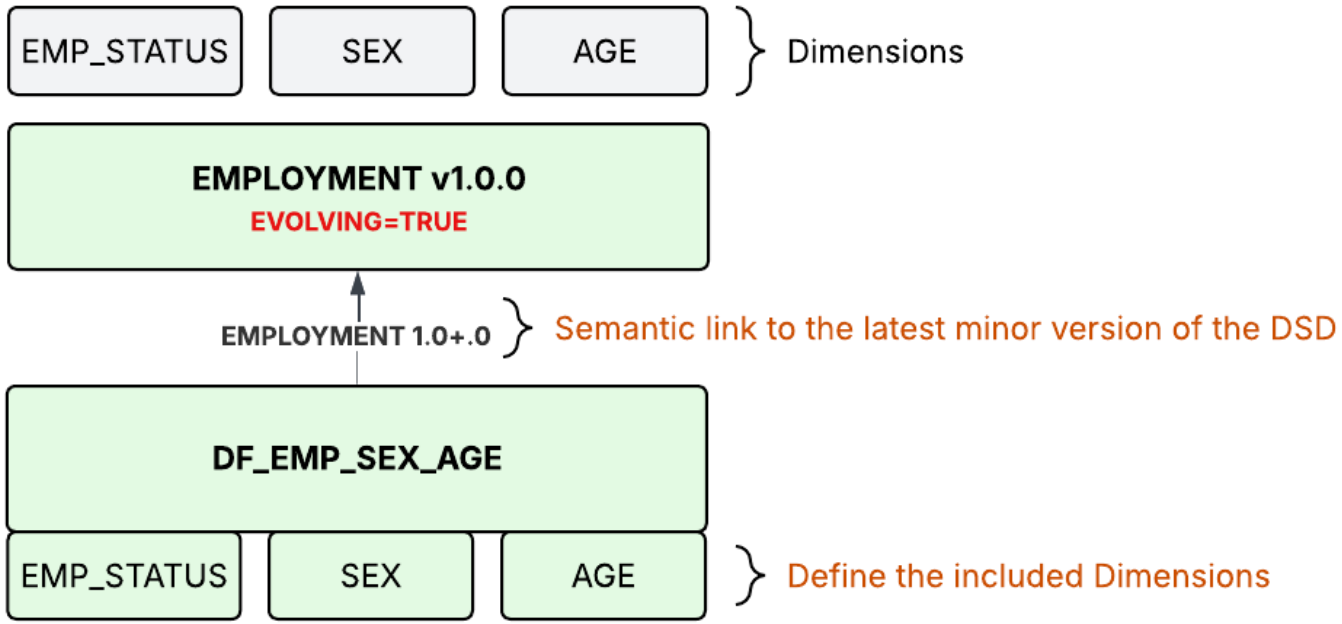
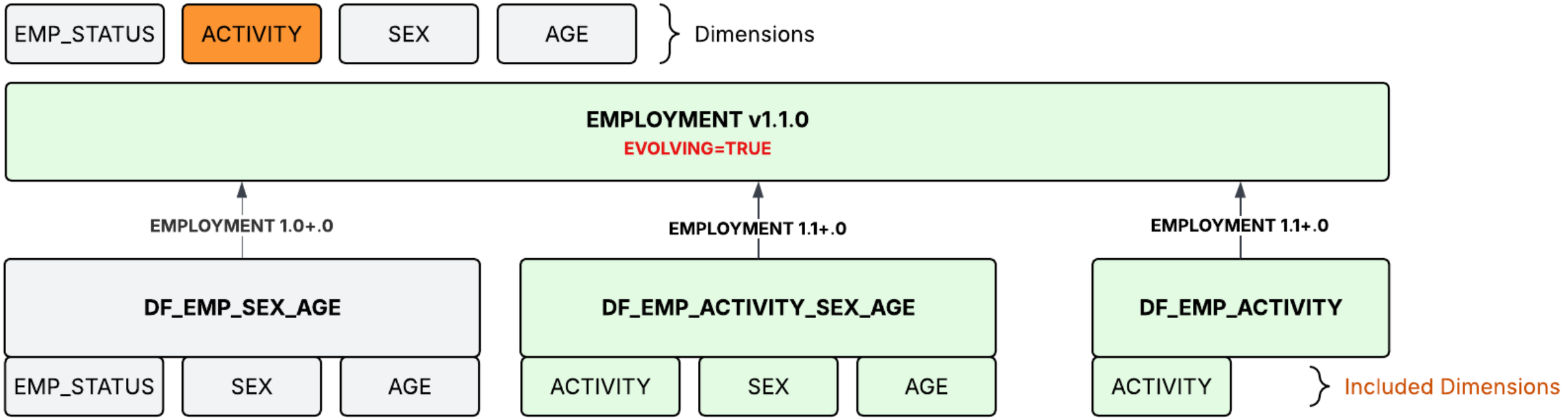
SDMX 3.1 – Evolving DSD



EMP_STATUS	SEX	AGE	YEAR	VALUE
EMPLOYED	M	20	2024	13.4
EMPLOYED	F	20	2024	13.5
LFW	M	20	2024	3.4
LFW	F	20	2024	3.3

SDMX 3.1 – Evolving DSD



EMP_STATUS	SEX	AGE	YEAR	VALUE
EMPLOYED	M	20	2024	13.4
EMPLOYED	F	20	2024	13.5
LFW	M	20	2024	3.4
LFW	F	20	2024	3.3

Remains unchanged

ACTIVITY	SEX	AGE	YEAR	VALUE
FORESTRY	M	20	2024	1.3
FORESTRY	F	20	2024	0.3
_Z	M	20	2024	3.4
_Z	F	20	2024	3.3

ACTIVITY	YEAR	VALUE
FORESTRY	2024	1.6
FISHING	2024	0.7
MANUFAC	2024	3.4
FARMING	2024	0.6

SDMX 3.1 – Data for evolving DSD

EMP_STATUS	ACTIVITY	SEX	AGE

EMPLOYMENT v1.1.0
EVOLVING=TRUE

EMP_STATUS	ACTIVITY	SEX	AGE	YEAR	VALUE
EMPLOYED	~	M	20	2024	13.4
EMPLOYED	~	F	20	2024	13.5
LFW	~	M	20	2024	3.4
LFW	~	F	20	2024	3.3
~	FORESTRY	M	20	2024	1.3
~	FORESTRY	F	20	2024	0.3
~	FISHING	M	20	2024	0.5
~	FISHING	F	20	2024	0.2
~	FORESTRY	~	~	2024	1.6
~	FISHING	~	~	2024	0.7
~	MANUFAC	~	~	2024	3.4
~	FARMING	~	~	2024	0.6

sdmx

SDMX Services

Supporting FAIR Open Data

Making SDMX FAIR: The URN Resolver Service

At the heart of SDMX's ambition is compliance with the **FAIR principles of open data**

Findable

Accessible

Interoperable

Reusable

A critical step toward this goal is the new URN Resolver Service, available at urn.sdmx.io

URN: Content and Syntax

Every SDMX Structure has a globally unique identifier - **U**niform **R**esource **N**ame (**URN**)

urn:sdmx:org.sdmx.infomodel.datastructure.**Dataflow**=**IMF**:**EXR**(**1.0**)

The URN is built from 4 unique identifiers

1. The type of structure	**Dataflow**
2. The maintenance Agency (owner) of the structure	**IMF**
3. The ID of the structure	**EXR**
4. The Version of the structure	**1.0**

URN: Resolving to a resource

Until now, it was not possible to resolve the URN to the actual metadata resource

The new URN resolver service will convert any official SDMX URN, to the official SDMX structure

https://urn.sdmx.io/resolve/urn:sdmx:org.sdmx.infomodel.datastructure.Dataflow=IMF:EXR(1.0)

Easily find any structure based on its identifier

URN: Stability and permanence

No matter where a service is hosted or how it evolves over time, the URN will always resolve to the authoritative structure.

URLs can change. URNs do not.

URNs ensure permanence when linking to SDMX resources, and their resolution to official structures underpins reliability and trust.

The Foundation: SDMX Global Discovery Service

Powering the URN Resolver is the **S**DMX **G**lobal **D**iscovery **S**ervice **(SGDS)** at gds.sdmx.io

The SGDS is the official catalogue of SDMX-compliant services.

Agencies can register their metadata services for free, making their content discoverable and reusable across the global SDMX community.

When a new service is registered, the metadata becomes immediately discoverable by the URN resolver service.

At launch, the SGDS supports structure services, with data services to follow in 2026 — expanding its role as the central hub for discovering both metadata and data.

Why This Matters: Business Value for Organisations

Boosts efficiency: Organisations can discover and reuse existing structures instead of reinventing the wheel — reducing duplication and metadata silos.

Improves data quality and value: Shared access stimulates harmonisation of concepts across domains, making it easier to integrate and combine data.

Unlocks dataset visibility: Once the SGDS includes data services, it will act as a central catalogue, increasing the reach and impact of datasets by making them easier for consumers to find and use.

Together, the URN Resolver and the SGDS make SDMX more **discoverable**, more **reusable**, and more **FAIR** delivering real value for organisations and data users alike.

SDMX Global Discovery Service

One stop to find and trust SDMX metadata worldwide

https://gds.sdmx.io

URN Resolver Service

Every SDMX URN, always resolvable, always reliable

https://urn.sdmx.io