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Scenarios for Integrating Inline XBRL in the OAM platform

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XBRL – EU market background

- Mature market
- Driven by EBA / EIOPA requirements
- Variety of tools/engines available for DPM taxonomies
  - Highly optimized for effectiveness and performance
  - Designed for deep integration with Regulator & Filer infrastructure
- Traditional licensing & delivery models
- Limited offer of generic Inline XBRL tools

ESMA ESEF – requirements' background

EBA/EIOPA

- Large scope of data
- Complex dictionary (DPM)
- Complex validation
- Large data challenges
- XBRL tools as a part of core data collection & processing platform
- Common patterns for large enterprise applications

ESMA ESEF

- Limited scope of data
- Simple dictionary (IFRS)
- Simple validations
- Extensibility challenges
- XBRL tools to be lightly integrated with data platform
- Variety of different technologies / platforms used

ESMA ESEF for Regulator / OAM Common requirements

- Data management
  - Handling multiple taxonomies & taxonomy versions
  - Supporting Filers' extensions of taxonomy
- Validation
  - XBRL / Inline XBRL / Dimensions / Calculations / Formula assertions / ESMA FR
- Rendering
  - Interactive viewers of Inline XBRL documents (tags browser, etc.)
- Tagging
  - Interactive tools for Inline XBRL tagging

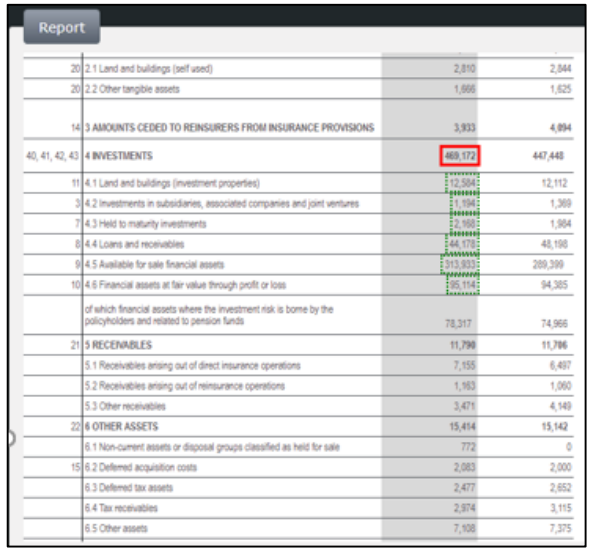
ESMA ESEF for Regulator / OAM Common requirements

- Data export to other common formats
  - JSON, CSV, MS Excel
- Inline XBRL integration with existing data exchange platforms
  - Enhancement rather than Replacement
- Limited but still – data analytics scenarios for ESMA ESEF data

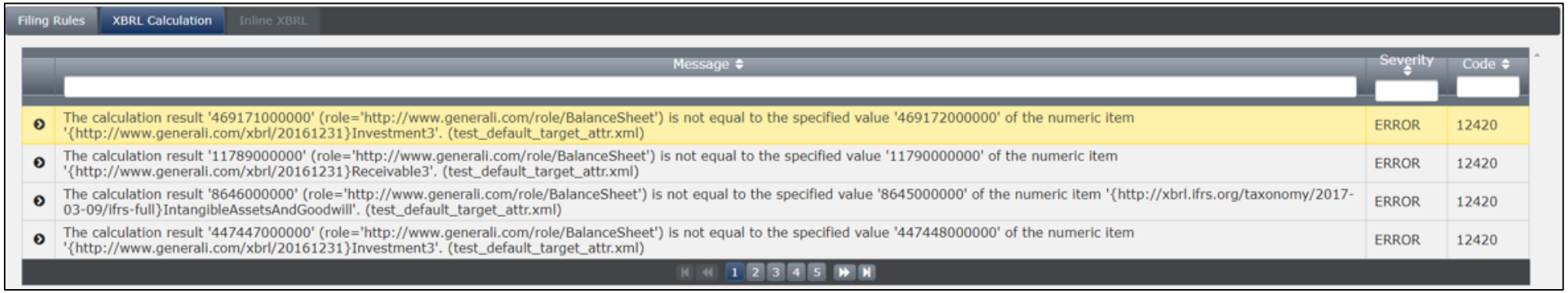
ESMA ESEF for Regulator / OAM
“Do nothing” integration scenario

- Functionality
  - Gather, store and publish Inline XBRL reports from the market, without any processing
  - **No XBRL functionality in the scope**
- Results
  - Data consumers may always invest in XBRL tools to understand the data

ESMA ESEF for Regulator / OAM Minimalistic integration scenario



- Functionality
  - **Validate the data before publishing**
- Result
  - At least you are sure published reports are not corrupted (from syntax & automatic data validation perspectives)



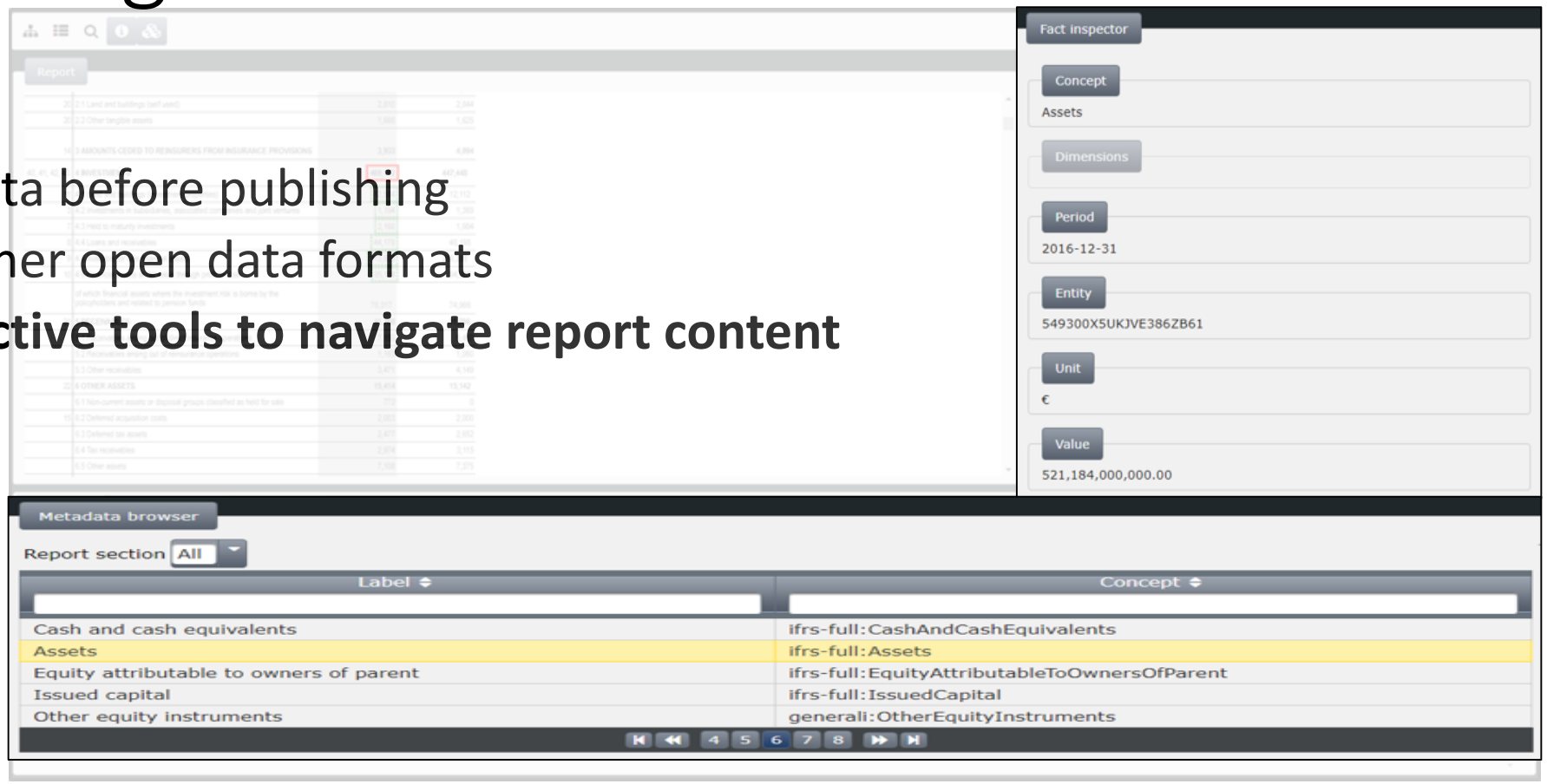
ESMA ESEF for Regulator / OAM
Simple integration scenario with open data

- Functionality
  - Validate the data before publishing
  - **Publish not only source documents (Inline XBRL) but also other formats**
    - **Wasily digestible for data consumers**
    - **Use OIM-JSON output, if possible**
- Result
  - …
  - You truly support data openess principle

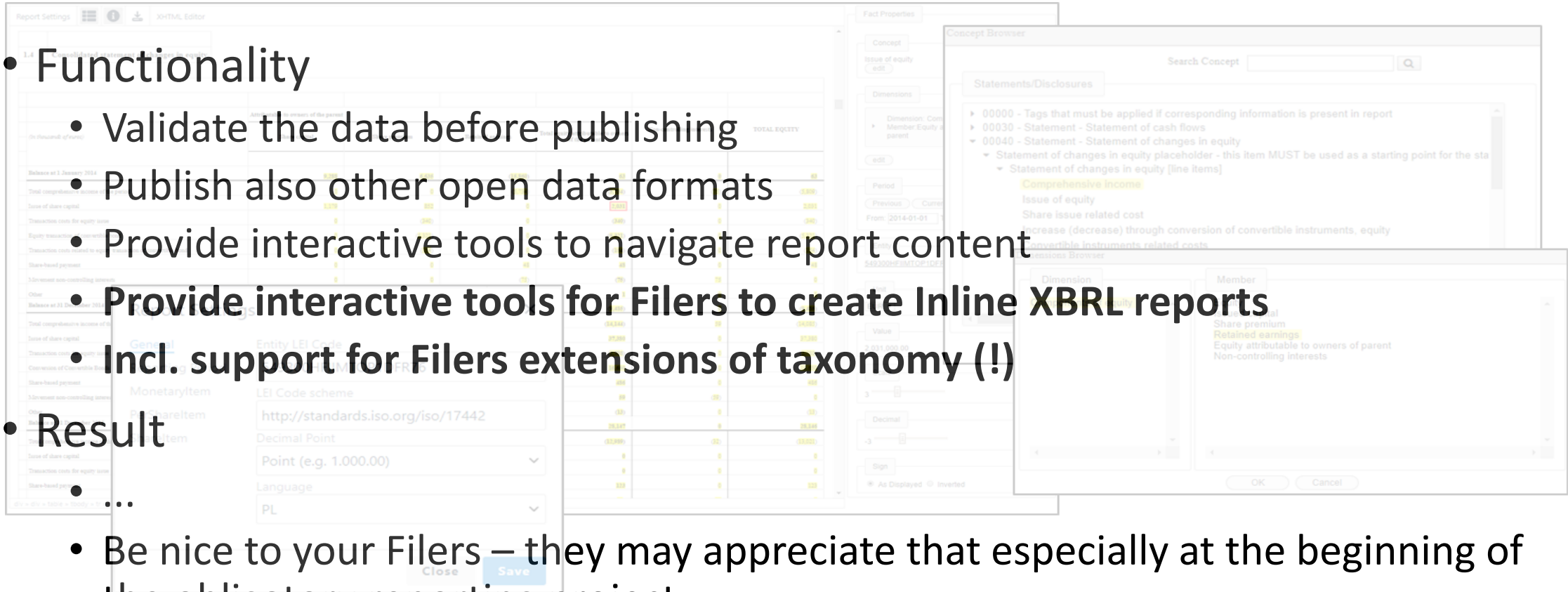
```
{
  "f923": {
    "value": "1234",
    "dimensions": {
      "concept": "tax:NumericConcept",
      "entity": "cid:123456789",
      "period": "2015-01-01T00:00:00/2016-01-01T00:00:00",
      "unit": "iso4217:GBP",
      "tax:RegionDimension": "tax:Europe"
    }
  }
}
```

ESMA ESEF for Regulator / OAM
Advanced integration scenario

- Functionality
  - Validate the data before publishing
  - Publish also other open data formats
  - **Provide interactive tools to navigate report content**
- Result
  - …



ESMA ESEF for Regulator / OAM
Complex integration scenario



- Functionality
  - Validate the data before publishing
  - Publish also other open data formats
  - Provide interactive tools to navigate report content
  - **Provide interactive tools for Filers to create Inline XBRL reports**
  - **Incl. support for Filers extensions of taxonomy (!)**
- Result
  - …
  - Be nice to your Filers – they may appreciate that especially at the beginning of the obligatory reporting project

ESMA ESEF for Regulator / OAM
Full integration scenario

- Functionality
  - Validate the data before publishing
  - Publish also other open data formats
  - Provide interactive tools to navigate and edit report content
  - Provide interactive tools for Filers to create Inline XBRL reports
  - **Integrate Inline XBRL data with data analytics platform**
- Result
  - …
  - Support internal / external data analysis scenarios

ESMA ESEF for Regulator / OAM Design Principles

- Technology independent solution
- Light-weight integration capabilities
- Modular architecture
- Simplified maintenance procedures
  - Limited need of load balancing, disaster recovery, etc.
- Open data formats to be used
- (Optional) Support for Filers' usage scenarios – Inline XBRL tagging

ESMA ESEF for Regulator / OAM Target solution

- Technology & Architecture
  - **RESTful API (web service)**
  - Flexibility to implement only selected functionalities
  - No tight binding with specific vendor / technology
- Delivery model
  - On-premise or cloud deployment model
  - Both easily available for web service
- Business model
  - Subscription and SaaS models available

ESMA ESEF for Regulator / OAM REST API Concept

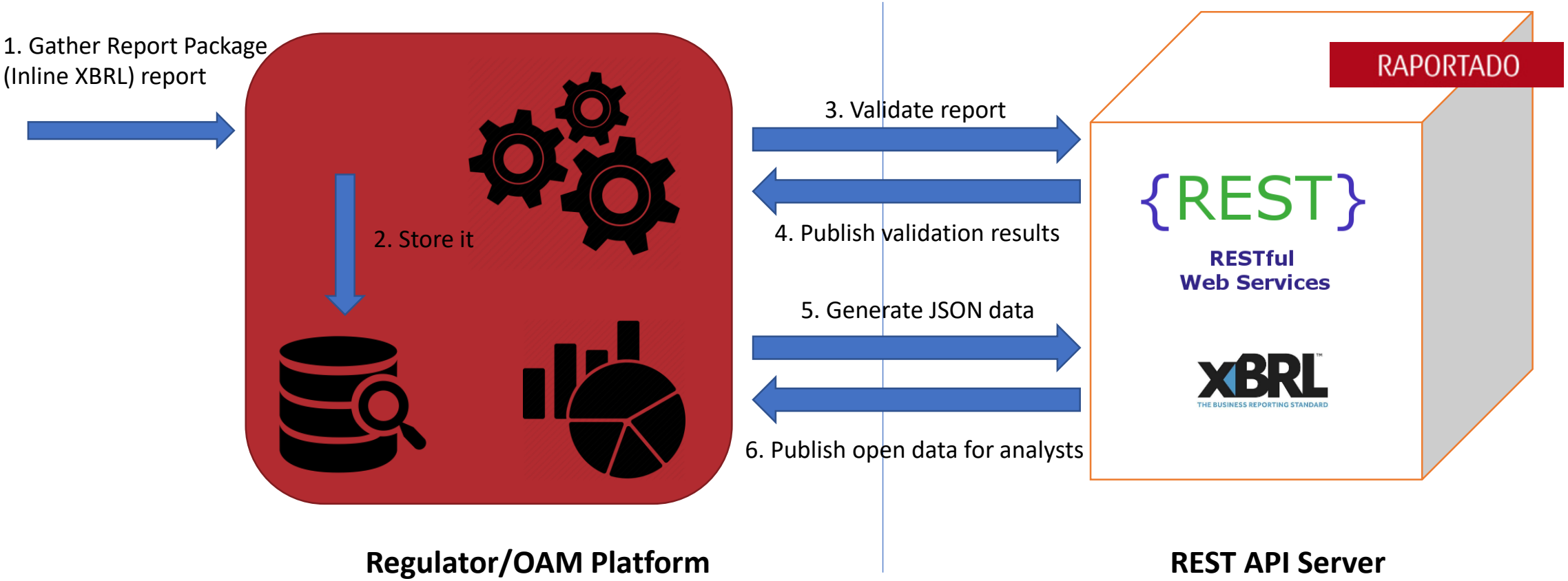
- In-memory processing
- Taxonomy agnostic impl.
- Scalability

Method Type	URL	Description
ESMAESEF Rest Controller		
GET	/esma-esef/instances	Get ESMA-ESEF Report List
POST	/esma-esef/instances	Insert ESMA-ESEF Report
DELETE	/esma-esef/instances/{id}	Delete ESMA-ESEF Report
GET	/esma-esef/instances/{id}	Get ESMA-ESEF Report
GET	/esma-esef/instances/{id}/export-to-json	Export ESMA-ESEF Report to JSON
GET	/esma-esef/instances/{id}/extract-xbrl	Extract XBRL
GET	/esma-esef/instances/{id}/original-file	Get Original File
GET	/esma-esef/instances/{id}/validation-results	Validate XBRL
GET	/esma-esef/instances/{id}/details	Get details
GET	/esma-esef/instances/{id}/facts	Get facts
GET	/esma-esef/instances/{id}/javascript-viewer	Get InlineXBRL viewer
Inline XBRL Rest Controller		
GET	/inline-xbrl/instances	Get Incline XBRL Report List
POST	/inline-xbrl/instances	Insert Inline XBRL Report
DELETE	/inline-xbrl/instances/{id}	Delete Inline XBRL Report
GET	/inline-xbrl/instances/{id}	Get Inline XBRL Report
GET	/inline-xbrl/instances/{id}/export-to-json	Export Inline XBRL Report to JSON
GET	/inline-xbrl/instances/{id}/extract-xbrl	Extract XBRL
GET	/inline-xbrl/instances/{id}/original-file	Get Original File
GET	/inline-xbrl/instances/{id}/validation-results	Validate XBRL
GET	/inline-xbrl/instances/{id}/details	Get details
GET	/inline-xbrl/instances/{id}/facts	Get facts
GET	/inline-xbrl/instances/{id}/javascript-viewer	Get InlineXBRL viewer

- *Reports validation*
- *Data conversions*
- *Interactive content viewer*
- *Validation errors visualization*

- *Storage*
- *Data flow workflow*
- *Security and access control*
- *Operations on non-XBRL formats*

ESMA ESEF for Regulator / OAM
REST API – Sample usage scenario



Join our ESMA ESEF Group on LinkedIn

ESMA ESEF / Inline XBRL
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For more information please contact

EMEA Center of Excellence for Fujitsu XBRL Solutions

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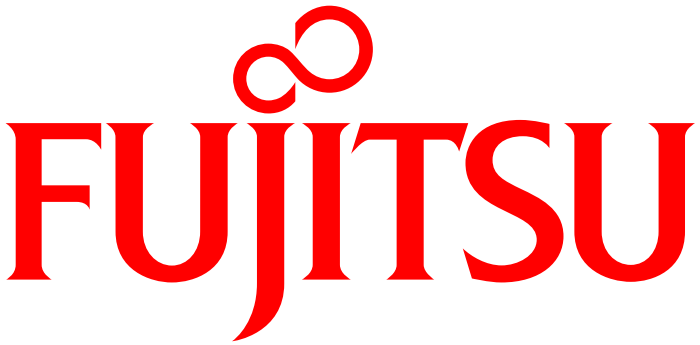

shaping tomorrow with you

5-6th February, 2020

24th XBRL Europe Day

Milan