Concurrent migration from PREMIS 2 to PREMIS 3 and Islandora to CLAW

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The Problems

- Retaining PREMIS fixity event data across platform migrations is essential for integral chain of preservation.
- Islandora 7.x generates PREMIS v2 fixity check data; next generation Islandora (CLAW) will provide PREMIS v3.
- Fedora Spec-compliant repositories do not validate fixity, they only provide a checksum.
Solutions

1. Develop an external fixity auditing microservice for Fedora Spec-compliant repositories
2. Migrate Fedora 3.x AUDIT data to this service
3. Integrate migrated data with production data
4. Store fixity event data in non-serialized form
5. Serialize into PREMIS v2, PREMIS v3, etc. on demand
The fixity microservice (Riprap)
Migrating legacy fixity events

Fedora 5 Repository

https://.../resource/8079

Scheduled jobs

Fixity auditing microservice

AUDIT log migrated from Fedora 3.x

<audit:record ID="AUDREC25">
  <audit:date>2018-08-21T13:49:01.615Z</audit:date>
  <audit:justification>PREMIS:file=islandora:1+OBJ+OBJ.0;
    PREMIS:eventType=fixity check;
    PREMIS:eventOutcome=SHA-1 checksum validated.</audit:justification>
</audit:record>

<audit:record ID="AUDREC26">
  <audit:date>2018-08-28T15:05:06.736Z</audit:date>
  <audit:justification>PREMIS:file=islandora:1+OBJ+OBJ.0;
    PREMIS:eventType=fixity check;
    PREMIS:eventOutcome=SHA-1 checksum validated.</audit:justification>
</audit:record>
Consuming PREMIS v3 fixity check event data

- Fixity checking events in PREMIS v2 and v3 are semantically equivalent
- Storing new and migrated fixity checking events in a serialization-agnostic way (e.g., in a relational database) will allow us to serialize the events in:
  - PREMIS v2 XML
  - PREMIS v3 XML
  - PREMIS v3 RDF
  - Etc.
- We will also be able to use this data more easily in management reports, preservation workflows, etc.