



# On the Use of YANG Provenance Signatures

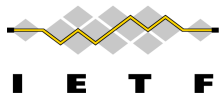
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## IETF Hackathon

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# Prov·e·nance | 'prävən(ə)ns |

- More specifically, *data provenance*
  - A documented trail accounting for the origin of a piece of data and where it has moved from to where it is presently
- Assurance of the origin and integrity of YANG datasets
  - Whenever the dataset is used beyond an original online flow
    - Use of data intermediaries, such as data lakes
    - AI/ML training and validation
    - Audit trails, including forensics evidence
- Related drafts
  - Motivated by the discussion on metadata manifests: draft-ietf-opsawg-collected-data-manifest
  - Defined in a specific draft: draft-lopez-opsawg-yang-provenance

# YANG Provenance Reference Implementation

- What we brought, written in Java
  - Signing and verification procedures
  - JSON and XML
- Available for demonstration as microservices
- Exercised with a wide variety of YANG fragments
- Using the four enclosing methods proposed in the draft
- Code available in GitHub
- Containers available in DockerHub

# What Comes Next

- Enhancements to the design of the reference implementation
  - Core libraries
  - Enclosing methods
  - Interfacing
  - Canonicalization issues
- Implementation status for the base draft
- Integration with other YANG modules
  - To be demonstrated in Madrid