WMO Guide to Free and Open Source Software

World Meteorological Organization

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Standing Committee on Information Management and Technology (SC-IMT)[1]

Commission for Observation, Infrastructure and Information Systems (INFCOM)[2]

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Introduction

- digital transformation via FOSS

Audience

- decision makers
- developers

Scope

Living document

Background

- use notes from TT-OSS document to INFCOM Management Group
- strong usage, increasing usage
- WIS 2.0 as an example of FOSS dev during standards dev
- needs coordination

Data policy considerations

Enabling Unified Data Policy via software

[1] https://community.wmo.int/governance/commission-membership/commission-observation-infrastructures-and-information-systems-infcom/commission-infrastructure-officers/infcom-management-group/standing-committee-information-management-and-technology-sc-imt

[2] https://community.wmo.int/governance/commission-membership/infcom

Guidelines

WMO Members

Using FOSS

- FOSS as an option during software evaluation
- Risk, hidden costs
- Principles apply to ANY software
- Risk management
- Due diligence (maintenance, updates)
- Lifecycle management/EOL → migration
- Total cost of ownership considerations
  - HR profile / IT capacity of organization
- Benefits (freedom, cost, reducing vendor lock in, portability)
- Infrastructure considerations

Contributing to FOSS

- National policies
- Events/hackathons (eg. OGC/OSGeo/ASF Joint Sprints)
  - By product: connection/collab
- Regulations / risk / constraints / considerations

Managing FOSS activities

- Aligning with WMO standards
  - Achieving compliance

WMO Activities

Coordination, alignment and support

- Coordination/support functions
- Software selection for WMO projects and application development
- Managing FOSS activities
- Aligning with WMO ecosystem of activities
- Ensuring sustainability of FOSS usage
- Managing risk

- Functions
- People

Standards compliance

- Compatability / compliance matrix
- Open Standards <→ FOSS support matrix
- Implementation of WMO Tech Regs / compliance ?
- FOSS as an early indicator of Tech Regs feasibility
  - Ensure FOSS implementations are part of Technical Regulation development/assessment (feasibility)
  - Example: wis2box, developed at the same time as WIS2 standards
  - Example: OGC standards (3 implementations)
  - FOSS is not part of the Tech Reg, but is an indicator of maturity/capability

Software review and evaluation

- Software identification and selection
  - Project checklist/assessment
- "Approved projects" and/or Reference Implementations
  - Make Tech Regs more concrete
  - Tech Regs → FOSS implementations
  - Should FOSS be cited in WMO Tech Regs (suggest no)
  - Criteria needed
    - Compliance (data exchange)
    - Software evaluation (FOSS!) checklist → confidence
    - Readiness
    - Bus/retirement factor
  - Rolling review
- Harmonization: regular review of ecosystem to ensure alignment and optimal use of resources

Application development

- Case study: wis2box et. al.
  - Agile development during Tech Reg development

References