WORKPLAN LTM 2022

Birger Mo

Status LTM versions

- First official release of version 10 June 2021
  - Some companies operational by October 2021
  - Second official release November 2021
  - No known serious errors but a list of less serious errors and suggestions for improvements
- Version 9
  - Stop maintenance of version 9 from January next year.
- Input version (used by Statkraft)
  - Some functionality still not included in version 10

Status 2021

- Significantly increased budget for 2021
- No new permanent personnel resources yet (system developer)
  - One summer student
    - Test procedures for LTM input applications
  - Two system developers (from ngLTM pre-project)
    - LTM API improvements
    - Automatic build system & Framework for automatic testing
- Trying to hire data consultant for long-term engagement

Summer Student - Stein Kåre L. Fosstveit

- Now a fifth year physics student at NTNU
- Created a set of test procedures for LTM application
  - Systematic traversal of menus for setting model parameters
  - Complete with input files and scripts
  - Found many new bugs
  - Easy to run/reproduce the tests
- Intended to be a building block in our new test system

Hired Consultant – Harald Wilhelmsen

- New build system for the LTM API
- Added support for multiple Python versions
- Increased level of automated testing

Hired Consultant – David Myklebust

- Synergy with ngLTM – set up common infrastructure
  - Scons – Python based build system
  - Conan – Package manager for compiled dependencies
  - GitLab – For administering automated tests
- Extended Scons coverage to 100% of the LTM code base
- Added Scons scripts for all the third party open source dependencies
- Created Conan packages for all LTM - dependencies
- Will continue working on GitLab test system

November release

- About 35 corrected errors and improvements
  - Mostly user interface (LTM application and API/Timeseries)
  - Some work on result applications as well
  - New ProdRisk features
- No known serious errors

Activities for 2022

- Need to train at least one new person
  - Process for hiring a new system developer is started
  - Knut Skogstrand on paternal leave for most of 2022
- Companies transition to operational use of version 10 will need support also in 2022

Activities for 2022

- Error correction and support version 10
- Error correction and maintenance of Input version
- Finalize implementation and test use of Volues TSS API (WcfLTM - Idbatch, Smagrev)
- Upgrade version 10 to include missing Input functionality
  - Goal: Maintain only one version of program code

Activities for 2022 (cont.)

- Improved documentation, sequential development
  - EOPS/EMPS/LTM instead of Vansimtap
- Improved automatic testing
  - Finalize work on new script based build system
  - Continue work on infrastructure for automatic testing
    - Integrate work by summer student on test scripts for LTM input functionality
    - Datasets and scripts under version control
  - Develop and integrate new scripts for computation sequences.

- Goal of automatic testing
  - Reduce costs of each new release
  - Improve robustness

Release plans (v 10)

- 10.3 June 2022
  - Error corrections
  - Powel database coupling
  - Snow storage in water value calculation (Input functionality)
- 10.4 November 2022
  - First stage of improved documentation
  - Error corrections
  - Thoroughly tested calendar functionality
- Continue with the same intervals

Release plans –input version

- After agreement

Long-term development

- Believe LTM will be the main tool 5-10 years ahead even if implementation of next generation tool starts as planned.
  - Supplemented with EMPSW/FanSi/PriMod for special analysis.
  - These models are using the same input, output and internal data structures.
- Important to build and main competence and make needed improvements.
- New large research projects, proposed by SINTEF, will be connected, to FanSi and/or PriMod type models/algorithms

Long-term activities

- Development based on customer feedback
  - Foresee a lot of new wishes when version 10 is operational and integrated into your own systems
- Scenario (uncertainty) type functionality for all contract types
- Complete API
  - All input through API
  - Error messages
  - Initiate a model setup from scratch through the API
- Documentation
- Implementation of more automatic testing
- Customer portal

SINTEF

70 år

1950-2020

Teknologi for et bedre samfunn