

IBPSA Project 2: BOPTEST

Task 2

Virtual Progress Meeting

11/18/2025
9:00 AM – 10:00 AM U.S. Eastern Time

Participation

Name	Institution
Lieve Helsen	KU Leuven
Jaap Neven	
David Blum	LBNL
Ettore Zanetti	
Harald Taxt Walnum	SINTEF
Nikolai Drigalenko	NTNU
Bertrand Kerres	Terion

Notes

1. Repo Management and Refactor [Dave]
 - Release v0.9.0 very soon, waiting for final unit tests to pass.
 - OpenAPI Spec – Bertrand tested LLM writing the spec (Bertrand/Terion still owns IP) and will make a PR with the spec. Need to decide where to put in repo and then how to include in deployment so that a controller can machine-read the spec.
 - Plan for Release 1.0 next since API has been stable and will include major updates to test cases.
2. Online Dashboard and Service [Dave/Kyle]
 - Kyle making last edits to dashboard, including csv download of results.
 - To update public web-service with v0.9.0 and deploy dashboard after release.
3. DOPTEST [Javier/Lieve]
 - Lieve submitting proposal that includes DOPTEST development.
4. OpenModelica compilation testing and library updates [Ettore]
 - See <https://github.com/ibpsa/project1-boptest/pull/799>.
 - Ettore updated all test cases to latest versions of Modelica libraries (MSL 4.0, Buildings 12.1, IDEAS 4.0).
 - Test case FMUs in repo to be compiled using Dymola with binary export license – now comparing results for test cases with changes – from library and from tweaks to test cases – KPIs and trajectories will change and plan to make notes of changes upon release.
 - Open-source compilation with OpenModelica – added as option in parser workflow - can use for e.g. testcase1 unit tests but not bigger test cases – issues compiling into CS FMU. Most test cases do simulate in OpenModelica itself, though haven't done results checking. Will continue testing test case simulation

and FMU compilation, submitting issues to OpenModelica team, and plan to migrate to OpenModelica compilation once capability is sufficient.

- Want to reduce size of unit test reference results
5. Semantic modeling [Ettore/Dave/Others]
 - Progress on adding semantic models to `bestest_air` and `multizone_office_simple_air` at <https://github.com/ibpsa/project1-boptest/pull/709>. Not merged yet because need refinement of implementation and process for implementation.
 - These are semantic models meant for operational use cases of buildings, not design of building/emulator.
 6. New KPI – Actuator Travel [Xing and Jan – reported by Dave]
 - Implementation occurring in three steps:
 - i. After discussions in expert meeting at DTU and beyond, Xing implemented the KPI calculation, as average displacement or all included actuators, into the KPI calculator module. Dave merged in <https://github.com/ibpsa/project1-boptest/pull/797>, so this step is done.
 - ii. Xing made new PR to Modelica IBPSA to add a new KPI tag to the read block to indicate an actuator (similar to tagging zone temperature for discomfort). Dave to review and also to undergo typical Modelica IBPSA review before merging and propagating to Buildings, IDEAS, etc. This is <https://github.com/ibpsa/modelica-ibpsa/pull/2061>.
 - iii. Last step will be a new PR in BOPTEST that will be needed to update test cases with new read blocks from step ii – this will require MSL 4 updates being made to test cases to accommodate latest signal exchange blocks.
 7. Sensor Uncertainty [Jaap and Harald]
 - No time.
 8. Component Failures [Nikolai and Harald]
 - No time.
 9. Ideas for new initiatives [All]
 - Merge Task 2 and Task 3 Meetings [Dave/Ettore]: Propose to merge Task 3 meetings into Task 2 meetings, since most of the test case model development work is finished, except two new test cases, and there is little participation now in Task 3 meetings. This will help also streamline management, in reducing the number of meetings to organize and attend.
 - i. Ok by group.
 - Question [Nikolai]: Used BOPTEST in a course – worked really well – but github repo is too big – idea is to make a BOPTEST-Lite using matrix of repos, especially where test cases are not in main repo.
 - i. Dave: This is similar idea to what has been brought up before, and discussed in DTU expert meeting. Issue is that it increases overhead of repo management, continuous integration testing, etc.
 - ii. Ettore idea: Have a BOPTEST repository that is stripped of history of FMUs and made strictly from copying original repo in scripted/automated way so people could download that one. As a “BOPTEST-Lite.”