IBPSA Project 2: BOPTEST
Task 2
Virtual Progress Meeting

11/07/2024
9:00 AM – 10:00 AM U.S. Eastern Time

Participants

	Name	Affiliation
1	Lieve Helsen	KU Leuven
1	Jaap Neven	
	Jelger Jansen	
1	Javier Arroyo	WEDOCO, dnergy
	Filip Jorissen	Builtwins
1	David Blum	LBNL
	Michael Wetter	
	Christoph Gehbauer	
1	Ettore Zanetti	
	Zhe (Walter) Wang	Hong Kong University of Science and Technology
	Dan Wang	
	Wanfu Zheng	
	Piljae Im	ORNL
	Yeonjin Bae	
	Yan Chen	PNNL
	Xing Lu	
1	Laura Zabala	R2M
	Vadim Liventsev	
	Roel De Coninck	dnergy
	Iago Cuepero	
1	Harald Taxt Walnum	SINTEF
	Esther Borkowski	ETH Zurich
	Kyle Benne	NREL
	Peder Bacher	DTU
	Matthias Van Hove	
	Sicheng (James) Zhan	National University Singapore
	Davide Fop	Politecnico di Torino
	Xu Han	Harvard University, University of Kansas
	Zheng Oneill	Texas A&M University
1	Guowen Li	
	Mingzhe Liu	
1	Kun Zhang	École de Technologie Supérieure (ÉTS)
	Alireza Yaghoubi	
	David Wolfle	FZI
	Jan Marco Ruiz de Vargas	Technical University of Munich

Total: 9

Agenda and Notes
Generally, updates to ongoing initiatives and discussion of possible new initiatives.

1. Weather forecast uncertainty [Laura and Zhe]
   - Dave reviewed PR from Laura and Wanfu. Started new staging and development branch and made some edits and clean up - https://github.com/ibpsa/project1-boptest/pull/693. One issue to confirm is having the setting of uncertainty accessible to a user in /get_forecast in addition to /scenario, or just /scenario. Dave and Laura agree to remove in /get_forecast. Laura to remove and PR changes. Dave to continue working on unit test organization.
   - Journal paper? Plan to re-submit to Journal of Building Performance Simulation, though need to check with Zhe on this standing. If not submitted, could be valuable to address feedback from Peder and David before submitting again. Laura and Dave to check in with Zhe.
     Journal paper should be accepted before releasing API capability in BOPTEST.
2. Repo Refactor [Dave]
   - Service merge - PR https://github.com/ibpsa/project1-boptest/pull/652
     Tested by Ettore and Javier. Ettore found and fixed issues with some utility scripts. Javier had issue with provisioning an empty test case directory, but ok to save an enhanced safeguard for this for a future dedicated issue. Dave updated readme. Kyle merged updates from ADRENALIN competition. Dave feels ready to merge very soon and asked Kyle, Javier, and Ettore for final PR approvals.
   - To discuss next steps in Denmark, e.g. moving test cases to own directory.
3. Online Dashboard and Service [Dave/Kyle/Harald]
   - ADRENALIN finished, successfully from a management standpoint. Lessons learned on high use of Service added to PR described before. Winners announced, and now in phase 2 of transferring controller knowledge to industry partners.
4. DOPTEST [Javier]
   - Waiting until refactor of main repo finished, and then get back to KPIs Disaggregation PR and other issues around DOPTEST workflows development and integration.
5. OpenModelica compilation testing and library updates [Ettore]
   - Ettore picking up effort again. For Denmark meeting, tabulating which models compile in OM, simulate in OM, export as FMU ME. Also, issue with FMU CS as OM does not support their export except for use of Euler solver. Ettore to reach out to OM team to see where they are and would need to work more on CS export support.
6. Semantic modeling [Ettore]
   - bestest_air has complete Brick model. Working on multizone_office_simple_air, almost complete. Working on and using modelica-json (at LBNL), plus some post-processing specifically for BOPTEST, to extract semantic models from Modelica models and added annotations.
     Latest development branch https://github.com/ibpsa/project1-boptest/tree/issue591_addSemanticTags
   - For vision, see e.g. Pereira et al. 2024 https://doi.org/10.1016/j.jobe.2024.108645

7. New KPI – Actuator Travel [Xing and Jan]
    - Xing made PR - https://github.com/ibpsa/project1-boptest/pull/699
      Adds calculation of cycling KPI – with arc length normalized in x (time) and y (actuator signal – by min/max) axes, and averaged over all calculated actuators. Two methods for including necessary actuator signal tagging data in test cases – one for existing test cases that extracted information about which actuator signals to tag manually, and one for new test cases that includes updates to the signal exchange overwrite block that would allow the parser to do this automatically (requires use of Modelica v4 since will be an update in Modelica IBPSA Library). Dave to review this PR and additional input from Jan.
        i. Q: How is arc length actually calculated at discrete points? A: it is linearized between the points. Simulation data is stored at 30 seconds, but then the time normalization changes that actual resolution of the discrete points.
8. Breakout Session Topics for November Expert Meeting
    - See https://ibpsa.github.io/project1-boptest/ibpsa_project/meetings/general/202411_Denmark/2024_DTU_ExpertMeetingAgenda_Draft_v6.pdf for current Task 2 topics.
9. Ideas for new initiatives [All]
    - No time.