

IBPSA-BOPTEST Progress

9/19/2023

9:00 – 10:30 AM U.S. Eastern Time

Participation

Attended	Name	Affiliation
1	Lieve Helsen	KU Leuven
1	Javier Arroyo	
1	Filip Jorissen	Builtwins
1	David Blum	LBNL
	Michael Wetter	
	Christoph Gehbauer	
1	Ettore Zanetti	
1	Zhe (Walter) Wang	Hong Kong University of Science and Technology
1	Dan Wang	
1	Wanfu Zheng	
	Valentin Gavan	ENGIE Lab
	Piljae Im	ORNL
	Yeonjin Bae	
	Sen Huang	
	Yan Chen	PNNL
	Xing Lu	
	Draguna Vrabie	
1	Laura Zabala	R2M
	Vadim Liventsev	
	Roel De Coninck	DeltaQ
1	Iago Cuepero	
1	Bart Merema	
1	Harald Taxt Walnum	SINTEF
	Gaurav Chaudhary	NTNU Norway
	Esther Borkowski	ETH Zurich
	Kyle Benne	NREL
	Gregor Henze	University of Colorado-Boulder
	Fabian Wullhorst	RWTH Aachen
	Laura Maier	
1	Peder Bacher	DTU
1	Matthias Van Hove	
1	Konstantin Filonenko	
1	Sicheng (James) Zhan	National University Singapore
	Rossella Alesci	Politecnico di Milano
	Davide Fop	Politecnico di Torino
	Justin Prince	Arup
	Fabian Ochs	University of Innsbruck
	Xu Han	Harvard University, University of Kansas
	Zheng O'Neill	Texas A&M University
1	Mingzhe Liu	
1	Kun Zhang	École de Technologie Supérieure (ÉTS)
1	Alireza Yaghoubi	
	Xuezheng Wang	Syracuse University

Total: 19

Agenda

1. Project 2 Administration (~ 0:00)
 - Aachen meeting schedule and agenda
 - i. Dave to post agenda on website – consider also Dashboard. Anyone who has discussions they'd like to bring up, email Dave.
 - ii. Time changed to 8:30am to 11am.
 - iii. Meeting Registration: <https://forms.gle/VMu1LZ7pWW5etzs9>
 - Reminder to register for project: <https://forms.gle/W3Z9Xg7bBZdKdpT48>
2. Emulators (~0:15)
 - DeltaQ [Bart] – small fixes on documentation. All up to date.
 - i. Ettore will review. PR is <https://github.com/ibpsa/project1-boptest/pull/469>.
 - Large Office Complex Air [Xing] – Kun or Iago review?
 - i. Kun will review. PR is <https://github.com/ibpsa/project1-boptest/pull/569>.
Dave to put in touch with Xing and Yan.
 - twozone_apartment_hydronic [Ettore] – no update on boundary condition mods.
 - Doptest [Javier] – working on tiny cluster model. Have now buildings with heat pumps. Compiled with OpenModelica – slower and less capable. Discussion topic on agenda for IBPSA Modelica Working group meeting in Aachen is OpenModelica support. Dave also mentions topic of discussion in Aachen under refactor of repository.
3. Software (~0:35)
 - Weather forecast uncertainty [Laura and Zhe]
 - i. Submitted journal paper how to quantify and model weather forecast uncertainty – writing emulator for how simulating weather forecast uncertainty and making PR. Wanfu completed modification to underlying forecasting class and added parameters for low, medium, high. Coordinate with DDave and Laura on software implementation. Need to add weather forecast uncertainty to scenario options and not allow modification in the middle of a test.
 - ii. Zhe to send Peder draft of paper. Comments welcome.
 - Python3, Pyfmi, CS Update [Dave]: PR is <https://github.com/ibpsa/project1-boptest/pull/536>.
 - i. Final testing from Kyle in BOPTTEST-Service. Tested also by Harald with ADRENALINE emulators – worked ok. Harald to test one year simulation. Noted slower simulation time. Filip commented more profiling on CS simulation may help identify cause of time increase – viewed comment on <https://github.com/ibpsa/project1-boptest/pull/536#issuecomment-1585183094>.
 - ii. Dave mentions unit tests taking a long time, and will also be case for large emulators. How to reduce time? Not run all of the scenarios? Filip suggests run scenarios for a shorter period of time (can still grasp most of the behaviors). Harald suggests making test only when doing PR to master or dev. Dave says, the real problem is in the process of getting PR ready, can take a very long time to run tests - large office buildings takes

up to a day or more. Javier mentions could be part of refactoring, to move emulators somewhere else so that unit tests are separated.

- BACnet [Dave]: PR is <https://github.com/ibpsa/project1-boptest/pull/567>. Using bacpyes. Added unit test, example, and documentation. Reviewed by Erik Paulson who said it looks good.
 - Alfalfa Alignment [Dave] – Ongoing. See Alfalfa repo <https://github.com/NREL/alfalfa>. BOPTTEST-Service architecture based on Alfalfa, will be good for BOPTTEST maintenance to have single deployment architecture, rather than “local” and “service” split as now. Planning to spec out core REST API alignment this quarter.
 - Plan for version release v0.5.0 – timeline to release within next couple weeks.
4. Trials (~0:55)
- Dave thinks would be good to get BOPTTEST-Service usage numbers to present in Aachen.
 - Lieve mentions PhD student wanting to use DOPTEST, may opt for CityLearn depending on availability.
 - With more usage, Dashboard would be good to start using.
 - Dave mentions Edo Energy using BOPTTEST in DOE Connected Communities project.
5. Community Engagement and Outreach (~1:10)
- Javier, Dave, Harald, Iago, and Kyle led workshop at BS23, BOPTTEST and BOTEST-Gym, ~ 6-7 participants
 - Javier presented DOPTEST paper in BS23
 - Zoltan Nagy invited for BOPTTEST workshop at RLEM'23 (mid Nov) – Dave and Javier to circle back on that, especially to confirm exact date.
 - Dave and Lieve submitted article for Project 2 for next IBPSA Newsletter
 - Website workflow automation PR by Javier. Dave will review before merging.
6. Miscellaneous (if time)
- No comments.