IBPSA Project 2: BOPTEST
Task 2
Virtual Progress Meeting

2/27/2025
9:00 AM – 10:00 AM U.S. Eastern Time

Participants

	Name	Affiliation
	Lieve Helsen	KU Leuven
1	Jaap Neven	
	Jelger Jansen	
	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	
	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	
	Kun Zhang	École de Technologie Supérieure (ÉTS)
	David Wolfle	FZI
	Jan Marco Ruiz de Vargas	Technical University of Munich
1	Bertrand Kerres	Terion

Total: 6

Agenda and Notes

1. Weather forecast uncertainty [Laura and Zhe]
    - Harald beta tested implementation and reported in PR. Easy to use and looked good.
    - Laura to 1) add explanation for how the temperature uncertainty model parameters were calculated, and 2) update the design guide for the uncertainty code.
    - Dave: Should uncertainty scenarios limit forecast interval to be 1 hour?
        i. Harald – is a new forecast generated every time called, e.g. if 15 min control step? Are the forecasts consistent in any way for each of these or will a new uncorrelated error trajectory get generated every 15 minutes? In real weather forecasts, usually only update every X hours. And, if run controller with 1 hour control step vs 15 min control step, could get significantly different results. → Dave will double check code and suggest implementing something so that forecasts are only available at x interval, up to y horizon, updated every z hour(s). Check what makes sense based on data from paper.
2. Repo Refactor [Dave]
    - After Service merge, next on the list was creating a separate repo for test cases. Dave thinks management will be a challenge, with unit testing and versioning.
        i. Bertrand – need to follow semantic version standard closely. And have nightly builds to test all repos against. And have version requirements for each dependent repo.
        ii. Can FMUs be artifacts? Dave points out needs to version and git track FMUs to benchmark results of test cases and be able to go back and look at issues.
        iii. Git-lfs? A bit cumbersome to set up in the beginning but ok once done, and free to use.
3. Online Dashboard and Service [Dave/Kyle]
    - LBNL and NREL migrated web-service hosting to LBNL's AWS organization. Should not have seen any downtime on Service availability.
    - Issue report – if run out of workers or test case crashes, would be nice to have ability to retrieve running testids so can shut down without shutting down whole Service, a functionality with admin privileges only. Dave opened issue #743 and will discuss implementation with Kyle, among other issues needing attention.
    - Swagger (OpenAPI Spec) documentation of API - Dave looked back at what's already been done. Last year Dave and Kyle had worked with Alfalfa team to propose changes to the API to align with the Alfalfa API, such that interfaces could work with both projects. To document changes, they implemented a Swagger doc .yml of the new API. Dave proposes to modify this to represent the current BOPTEST API, and then flush it out (e.g. with expected arguments and responses) and merge to the repo. Then, subsequent API changes can be more clearly communicated and tracked with the swagger doc in place. To start, Dave will push a Swagger doc of the current API to a development branch, which Bertrand can further flush out via PR.

        i. Bertrand uses FastAPI python package to autogenerate spec for their software. Could look into it if it or something like it exists for javascript. However, might be overkill for the relatively small BOPTEST API. Good to consider in future though if becomes more complex and grows.
4. DOPTEST [Javier]
    - No time.
5. OpenModelica compilation testing and library updates [Ettore]
    - No time.
6. Semantic modeling [Ettore]
    - No time.
7. New KPI – Actuator Travel [Xing and Jan]
    - Xing working on updating PR with displacement calculation.
8. Sensor Uncertainty [Jaap and Harald]
    - Master Thesis at KU Leuven didn't get picked but will submit for another.
9. Ideas for new initiatives [All]
    - From before - Docker image is very big, consider if/how to reduce size – Dave revised similar issue #256.