

IBPSA Project 2: BOPTEST

Repository Refactor

DTU, Denmark

November 21, 2024

(based on Project 2 meeting in Aachen 2023)

David Blum

Computational Research Scientist/Engineer
Building Technology and Urban Systems Division
Lawrence Berkeley National Laboratory (LBNL)
Email: dhblum@lbl.gov

Current Structure

BOPTTEST (ibpsa/project1-boptest)

- Software (Framework Python modules, Dockerfile)
- Test Cases (FMUs, Modelica models, docs, resources)
- Documentation (User Guide, Design Guide)
- Flask API for local deployment
- BACnet Interface
- Website content (branch *gh-pages-custom*)
- DOPTTEST (fork branch **JavierArroyoBastida/project1-boptest *doptest***)
- Tutorials/workshops

Gym Interface (ibpsa/project1-boptest-gym)

- Gym environment for BOPTTEST
- Gym environment for BOPTTEST-Service (branch *boptest-gym-service*)

BOPTTEST-Service (NREL/boptest-service)

- Extend BOPTTEST into web-service
- Web API for web-service usage (needs “/select” and “testid”)
- Helm chart for Kubernetes deployment

Current Structure

BOPTTEST (ibpsa/project1-boptest)

- Software (Framework Python modules, Dockerfile)
- Test Cases (FMUs, Modelica models, docs, resources)
- Documentation (User Guide, Design Guide)
- Flask API for local deployment
- BACnet Interface
- Website content (branch *gh-pages-custom*)
- DOPTTEST (fork branch **JavierArroyoBastida/project1-boptest** *doptest*)
- Tutorials/workshops

Gym Interface (ibpsa/project1-boptest-gym)

- Gym environment for BOPTTEST
- Gym environment for BOPTTEST-Service (branch *boptest-gym-service*)

BOPTTEST-Service (NREL/boptest-service)

- Extend BOPTTEST into web-service
- Web API for web-service usage (needs “/select” and “testid”)
- Helm chart for Kubernetes deployment

Problems

1. BOPTTEST is overloaded
2. DOPTTEST is far-removed
3. Interfaces need to maintain two slightly APIs
4. Updates to BOPTTEST need to be tested and aligned in BOPTTEST-Service

Current Structure

BOPTTEST (ibpsa/project1-boptest)

- Software (Framework Python modules, Dockerfile)
- Test Cases (FMUs, Modelica models, docs, resources)
- Documentation (User Guide, Design Guide)
- Flask API for local deployment
- BACnet Interface
- Website content (branch *gh-pages-custom*)
- DOPTTEST (fork branch **JavierArroyoBastida/project1-boptest** *doptest*)
- Tutorials/workshops

Gym Interface (ibpsa/project1-boptest-gym)

- Gym environment for BOPTTEST
- Gym environment for BOPTTEST-Service (branch *boptest-gym-service*)

BOPTTEST-Service (NREL/boptest-service)

- Extend BOPTTEST into web-service
- Web API for web-service usage (needs “/select” and “testid”)
- Helm chart for Kubernetes deployment

Problems

1. BOPTTEST is overloaded
 2. DOPTTEST is far-removed
 3. Interfaces need to maintain two slightly APIs
 4. Updates to BOPTTEST need to be tested and aligned in BOPTTEST-Service
- 

Current Structure

BOPTTEST (ibpsa/project1-boptest)

- Software (Framework Python modules, Dockerfile)
- Test Cases (FMUs, Modelica models, docs, resources)
- Documentation (User Guide, Design Guide)
- Flask API for local deployment
- BACnet Interface
- Website content (branch *gh-pages-custom*)
- DOPTTEST (fork branch *JavierArroyoBastida/project1-boptest doptest*)
- Tutorials/workshops

Gym Interface (ibpsa/project1-boptest-gym)

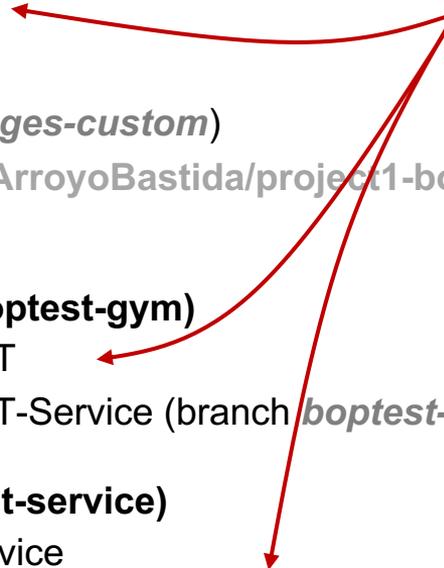
- Gym environment for BOPTTEST
- Gym environment for BOPTTEST-Service (branch *boptest-gym-service*)

BOPTTEST-Service (NREL/boptest-service)

- Extend BOPTTEST into web-service
- Web API for web-service usage (needs “/select” and “testid”)
- Helm chart for Kubernetes deployment

Problems

1. BOPTTEST is overloaded
2. DOPTTEST is far-removed
3. Interfaces need to maintain two slightly APIs
4. Updates to BOPTTEST need to be tested and aligned in BOPTTEST-Service



Current Structure

BOPTTEST (ibpsa/project1-boptest)

- Software (Framework Python modules, Dockerfile)
- Test Cases (FMUs, Modelica models, docs, resources)
- Documentation (User Guide, Design Guide)
- Flask API for local deployment
- BACnet Interface
- Website content (branch *gh-pages-custom*)
- DOPTTEST (fork branch *JavierArroyoBastida/project1-boptest doptest*)
- Tutorials/workshops

Gym Interface (ibpsa/project1-boptest-gym)

- Gym environment for BOPTTEST
- Gym environment for BOPTTEST-Service (branch *boptest-gym-service*)

BOPTTEST-Service (NREL/boptest-service)

- Extend BOPTTEST into web-service
- Web API for web-service usage (needs “/select” and “testid”)
- Helm chart for Kubernetes deployment

Problems

1. BOPTTEST is overloaded
2. DOPTTEST is far-removed
3. Interfaces need to maintain two slightly APIs
4. Updates to BOPTTEST need to be tested and aligned in BOPTTEST-Service



One Proposed Structure

BOPTTEST (ibpsa/boptest)

- Software (Framework Python modules, Dockerfile)
- Deployment and API always as web-service
- Documentation Source Code (User/Design Guide)
- Tutorials/workshops?

Test Cases (ibpsa/boptest-testcases)

- Test Cases (FMUs, Modelica models, docs, resources)

Gym Interface (ibpsa/boptest-gym)

- Gym environment interface for BOPTTEST

BACnet Interface (ibpsa/boptest-bacnet)

- BACnet interface for BOPTTEST

Website (ibpsa/boptest-website)

- Website content

DOPTTEST (ibpsa/boptest-doptest)

- Machinery specific for DOPTTEST

The good:

- More organized
- Smaller repos
- Single deployment infrastructure for local and web-service
- Template for "test case repositories"

The downsides:

- Distributed management
- Separated CI testing
- Will take some time and effort for transition

Progress and Needs

BOPTTEST (ibpsa/boptest)

- Software (Framework Python modules, Dockerfile)
- Deployment and API always as web-service 
- Documentation Source Code (User/Design Guide)
- Tutorials/workshops?

Test Cases (ibpsa/boptest-testcases)

- Test Cases (FMUs, Modelica models, docs, resources)

Gym Interface (ibpsa/boptest-gym)

- Gym environment interface for BOPTTEST

BACnet Interface (ibpsa/boptest-bacnet)

- BACnet interface for BOPTTEST

Website (ibpsa/boptest-website)

- Website content

DOPTTEST (ibpsa/boptest-doptest)

- Machinery specific for DOPTTEST

- Change name of existing
- Move user guide from branch:gh-pages-custom
- Tutorials/workshop material in ibpsa/boptest-website?

- Create new and move code
- Set up unit tests
- Lots more thinking

- Change name of existing
- Adapt to web-service merge

- Create new and move code
- Set up unit tests

- Create new and move code from branch:gh-pages-custom
- Set up pull from ibpsa/boptest and ibpsa/boptest-testcases

- Create new
- Lots more thinking

ibpsa/boptest-testcases

Version Control and Unit Testing

- If PR change in ibpsa/bopest, how unit test with ibpsa/boptest-testcases? And vice-versa.
- In unit test configuration, need to specify commit of other repo to use for each unit test run?

FMUs are large files:

- Previous suggestion to post as assets rather than files tracked in git – but, version control between releases?
- Should we post development-versions of assets?