Computing & Software / Simulation, Production & QA

Weekly CompSW meetings:

- https://indico.bnl.gov/category/410/
- **Wednesdays 11am EDT**

Weekly SimQA meetings:

- https://indico.bnl.gov/category/416/
  - And subcategories for fun4all and dd4hep office hours
- **Thursdays 2pm EDT**

Today's brief topics:

1. Single software stack decision path
2. Timeline and goals for simulation campaigns

Computing & Software: Software Stack Decisions

May	**4**		*AIWG*	
	11		Transition Period	Present procedure. Decide on list and order of decision topics
	18		*No meeting (Streaming Readout X Workshop)*	
	25		Code Repository	Repository: - Location (GitHub, GitLab+Host) - Admins - Access
Jun	**1**		Discussion Schedule	Schedule: - Decide most critical decisions to make before July 27th EICUG meeting - Schedule of topic discussions
	8		Geometry	Geometry: - Package (e.g. DD4HEP)
	15		Data Model	Data format - Generated events - Simulated data - Processed data (e.g. ROOT w/ specific tree format)
	22		Data Model	
	29		Reconstruction Framework	Reconstruction Framework - Package
Jul	**6**		Reconstruction Framework	
	13		Data and Analysis preservation	Data Preservation - What is preserved (simulated, DSTs, ...) - Location(s) - Access (S3, xrootd, rucio, ...)
	20		Documentation	Documentation: - Location of User documentation (wiki, repository,...) - Who will set up skeleton with list of topics (e.g. "Getting Started")
	27		*EICUG Meeting*	
Aug	**3**		Continuous Integration	Continuous Integration
	10		Containerization Official buids	Containerization - platform (Singularity, Docker, multi, ...) - Supported OSes - Location of images (e.g. cvmfs) Official builds - Location (e.g. cvmfs, container image, ...)
	17		Calibration DB Conditions DB	Calibration / Conditions DBs - Package - Server/Host - Access
	24		Calibration DB Conditions DB	
	31		Distributed Campaign Workflow	Distributed Campaign Workflow - Package (DIRAC, PanDA, STAR(?), ...)

Schedule [link]

- May 25: Code Repository
  - Convener Summary: “hybrid solution that uses GitHub as the primary repository, while using the eicweb GitLab instance for CI/CD”
- June 8: Geometry
  - Convener Summary: “implement the geometry description using DD4hep”
- June 15: Data Model
- June 29: Reconstruction Framework [RFC requirements]
- …

Timeline for Simulation Campaigns

Item	Task	Date
1	Acquire PWG physics/event requirements	June 2022
2	Aggregate and divide up the requirements for processing	June 2022
3	**First simulation campaign - June-July 2022 Concept**	June-July 2022
	Geometry/reconstruction feature freeze	**June 24**
	Bug fixing and benchmarking sprint	**June 24-July 1**
	Full simulation freeze and tag	**July 1**
4	Collaboration formation initiated (expected)	July 2022
5	Common Software Framework pieces decided on	August 2022
6	Develop common job submission framework	August 2022
7	**Second Simulation Campaign, October 2022 Concept**	November 2022
8	**Third Simulation Campaign, January 2023 Concept**	February 2023

Goals for Simulation Campaigns

- Provide data for PWGs to start analyzing in preparation for further campaigns
  - Get the machinery in place and running
  - Get data in people's hands
  - Not intended yet for final conclusions on physics performance or design, but a first step in an iterative process
- Provide target dates for inclusion of detector technology choices and designs
  - Implementation of the correct technology for simulation and reconstruction
  - Gradual improvement of detector and physics parameters
- Somewhat of an “exercise in exercising”

Software & Simulation Office Hours and Helpdesk

- **DD4hep-based software stack**:
  Monday, Friday, 2pm EDT
  Wednesday, 2pm ⇄ 9pm EDT
- **Fun4all-based software stack**:
  Tuesday, 3pm ⇄ 8:30pm EDT

Or contact us on the Helpdesk channel on the EIC Mattermost! Click here!

Mattermost

Software & Simulation Office Hours and Helpdesk

Mattermost

2022-Q3 Resource Requests (June-September)

- **Inclusive**
  - Djangoh ep NC for 5x41, 18x275; ed 10x100; Q2 > 1, 2, 10, 50, 100, 500, 1000
- **SIDIS**
  - Pythia6 ep for 5x41, 10x100, ~~18x100~~10x275, 18x275; all, 1 < Q2 < 100, 100 < Q2 (varying number of events, 1M to 20M)
  - Pythia6 with/without IFS/FSR, settings as above, but lowest/highest energies only (similar number of events)
  - Lambda generator (2M)
- **Jets/HF**
  - Pythia8 ep NC for 5M each in 5x41, 10x100, 18x275; Q2 > 1, 10, 100
  - Pythia8 ep CC for 5M each in 5x41, 10x100, 18x275; Q2 > 100
- **EW/BSM**
  - Djangoh/Pythia8 CC-DIS 18x275, 10x275, 10x100, Q2 > 100; dedicated sample with charm
  - LQGENEP
- **Exclusive**
  - Long list of exclusive channels: Sartre, Beagle, EPIC, eStarLight, lAger, TOPEG, DEMPgen