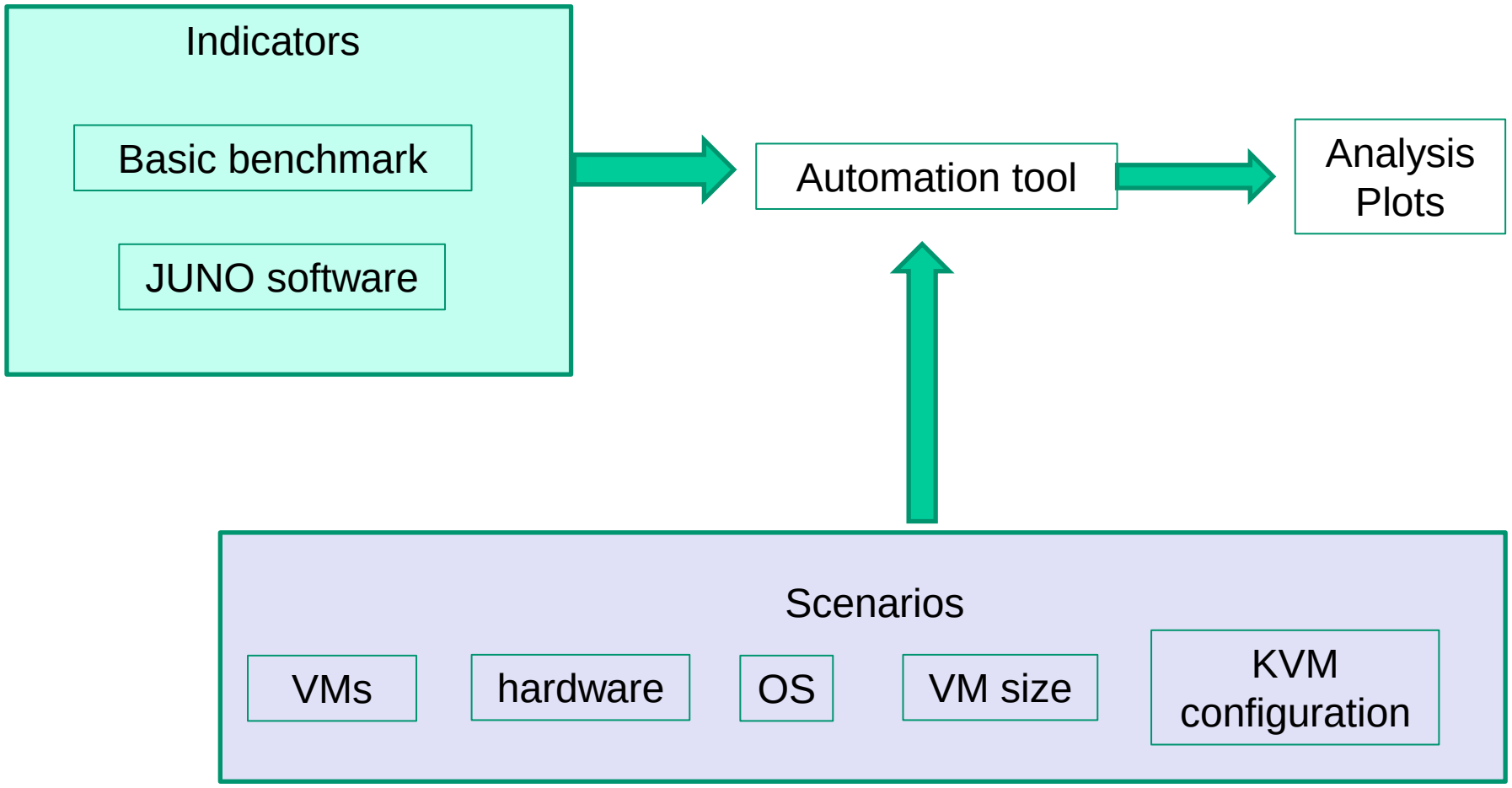
Evaluation Plan



JUNO software benchmark(2)

	PerfLoss(H1)	PerfLoss(H2)	PerfLoss(H3)
DetSim	9.25%	5.5%	5.1%
ElecSim	14.1%	18.5%	7.5%
ElecSim* (no out)	3.4%	1.8%	2.8%
PmtRec	1.2%	0.6%	9.5%
EvtRec	1.4%	1.8%	1.3%

- Three hardware has different loss, H3 has the best I/O performance,H2 has better CPU performance
- DetSim based on Geant4 has more CPU loss than Rec
- ElecSim with more I/O has higher penalty than others, which is proved by *ElecSim without output test
- Most of loss is under 5%, a few need concern

Summary

- JUNO Evaluations showed
  - CPU-bound processes are suitable to run on virtualization form
  - I/O penalty is still a key issue in I/O intensive processes
  - Simulation has bigger CPU loss than Reconstruction
- Many factors influence penalty, including hardware, application, KVM parameters, OS….
  - Tuning can achieve certain improvements
- Automatic test and monitoring tool needed to keep watch on performance issues in various scenarios and changing environment