

Blueprint Activity: News, Status and Plans

*IRIS-HEP Retreat
September 12-13, 2019*

Mark Neubauer

University of Illinois at Urbana-Champaign



The Blueprint Activity

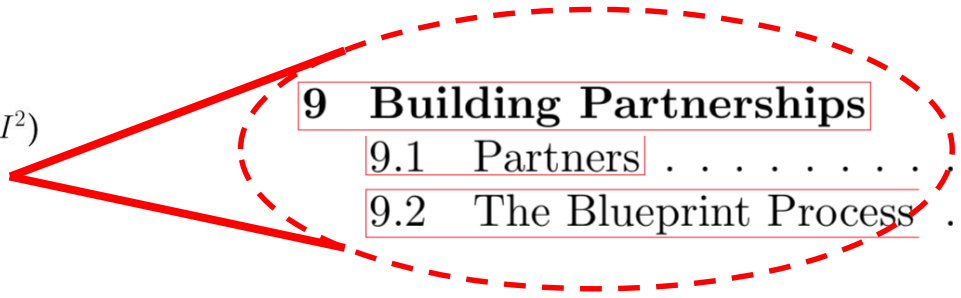
- It was recognized early in the community process of developing IRIS-HEP that its success depends on an informed evolution of its activities, direction, and (possibly) structure
- It was suggested to formalize this into a **Blueprint Activity** that was written into the Strategic Plan submitted to the NSF



Strategic Plan for a
Scientific Software Innovation Institute (S^2I^2)
for High Energy Physics

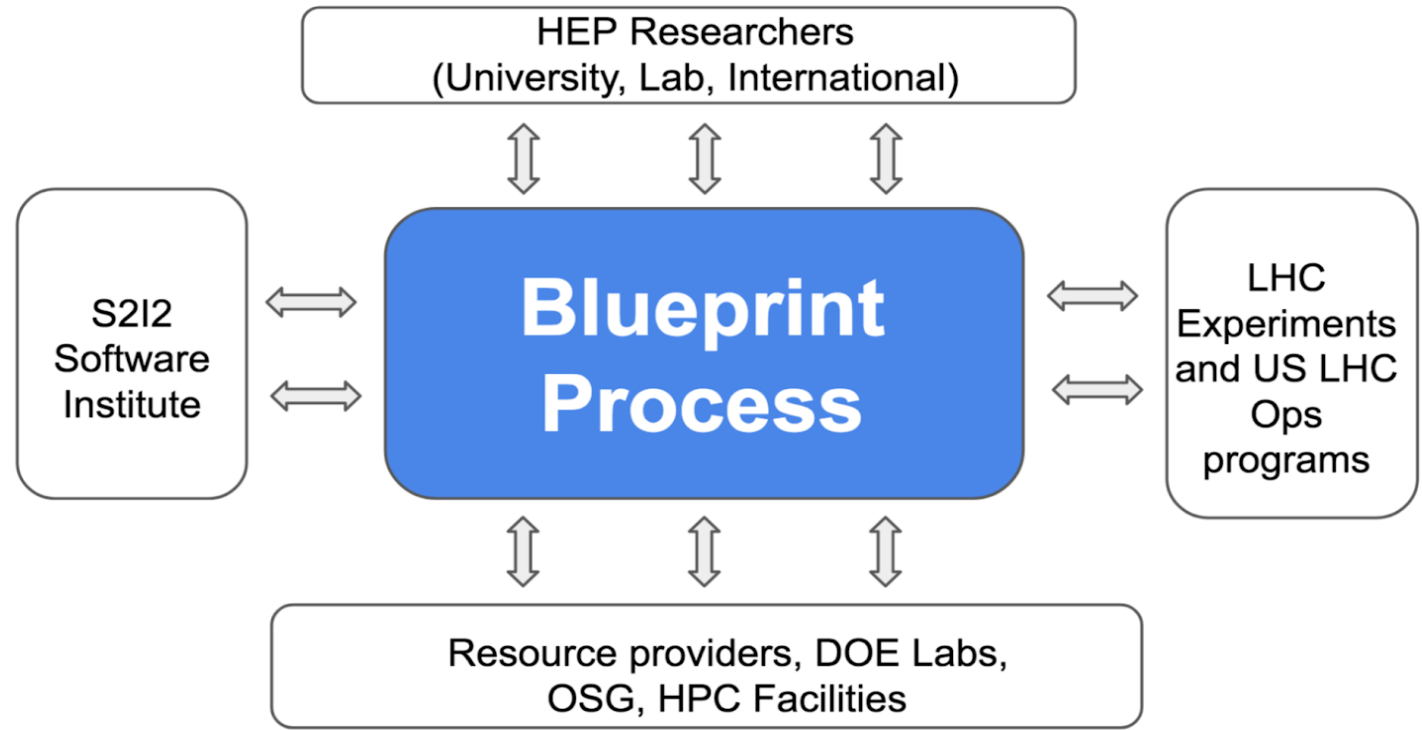
Peter Elmer (Princeton University)
Mark Neubauer (University of Illinois at Urbana-Champaign)
Michael D. Sokoloff (University of Cincinnati)

April 6, 2018



The Blueprint Activity

- The *Blueprint activity* is used to inform the development and evolution of the IRIS-HEP strategic vision



The Blueprint Process

- A series of workshops that bring together IRIS-HEP team members, key stakeholders and domain experts from disciplines of importance to the Institute's mission
 - *Topical presentations and breakout sessions*
- Discussions are captured and they inform **key outcomes** which are summarized in a **short report**



The Blueprint Workshops



- **Completed**
 - [Analysis Systems R&D on Scalable Platforms](#) (June 21-22 at NYU)
 - [Accelerated Machine Learning and Inference](#) (Sept 10-11 at Fermilab)
- **Scheduled**
 - [A Coordinated Ecosystem for HL-LHC Computing R&D](#) (Oct 23-25 at CUA)
- **In the planning stage** (Please [contact me](#) if you have more ideas!)
 - *Training, Education & Workforce Development*
 - *Efficient & Sustainable Software for Research*
 - *Strengthening Connections between Theory & Experiment*
 - *Analysis Systems & Software Ecosystem*
 - *Intelligent & Accelerated Big Data Delivery*
 - *Analysis Preservation & Open Access Data*



AS/SSL Blueprint Workshop



[Analysis Systems R&D on Scalable Platforms](#) (June 21-22 @ NYU)

- Strong engagement with the AS team, SSL team and representatives from NCSA, SDSC, NYU Research Computing, Google and RedHat (**26** registered participants)

Key outcomes:

- A set of requirements for SSL and important use cases from Analysis Systems R&D area
- Kubernetes identified as the "common denominator" among system deployments
- Federated "substrate" project discussed to aggregate contributions from clusters





FastML Blueprint Workshop



Fast Machine Learning and Inference (September 10-11 @ FNAL)

- Hosted by the LPC at Fermilab and co-located with the FastML “developer bootcamp” which held tutorials and hackathon (201 registered participants!)



Fast Machine Learning
September 10-13, 2019 at Fermilab

Sept. 10-11
IRIS-HEP Blueprint Meeting

Sept. 12-13
Developer Bootcamp

Accelerating ML in science:

- Ultrafast on-detector inference and real-time systems
- Acceleration as-a-service
- Hardware platforms
- Coprocessor technologies (CPU/GPU/TPU/FPGAs)
- Distributed learning

Local Organization:
Gabriele Benelli (Brown U.)
Javier Duarte (Fermilab)
Lindsay Gray (Fermilab)
Mia Liu (Fermilab)
Kevin Padro (Fermilab)
Alex Perloff (CU Boulder)
Zhenbin Wu (U. Illinois Chicago)

Scientific Organization:
Phil Harris (MIT)
Burt Holzman (Fermilab)
Shih-Chieh Hsu (U. Washington)
Sergio Jindariani (Fermilab)
Maurizio Pavesi (CERN)
Mark Neubauer (U. Illinois Urbana-Champaign)
Nhan Tran (Fermilab)





The Blueprint Workshops



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