V2 Development Cycle

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Five Years

100 PFLOP Machines executing production v2

Defining computational abstraction now for v2 and v3

Incorporate ECP, SciDAC and CMDV
Science Developments
Programming Model(s)
Performance Improvements

Infrastructure
Science Developments

• v1 is starting framework
• Development Priorities Established from Experimental Plan – 12/1/16
  – Effort quantification
  – Performance cost estimate
  – Diagnostics needed
• Prototyped and unit test – 7/1/17
  – No developments will be accepted that do not have prototype and unit test
• “Smoke Test” coupled system complete 10/1/17
• Components complete 7/1/18
Programming Model(s) and Performance Improvements

- Target Machines
  - Cori, Aurora
  - Summit
- Start with moving v1 to new programming model prototype(s) 7/1/17
  - Data Structures
  - Libraries
  - Coupler
  - Coupled system tests
- Smoke Test” coupled system complete 10/1/17
- Components complete 7/1/18
- Coupled system complete
Infrastructure

• Standardize development workflow (development, integration, testing)
• Harden v1 production workflow
  – Provenance
  – Data catalog
  – Data distribution and archive/stewardship
• Compsets and Compset repository
• Tools
  – Tool and Diagnostics Repositories
  – Documentation
• Observational data
  – standards (CF-compliance?)
  – provenance
  – stewardship