CCSM4 – Status and Upcoming Releases

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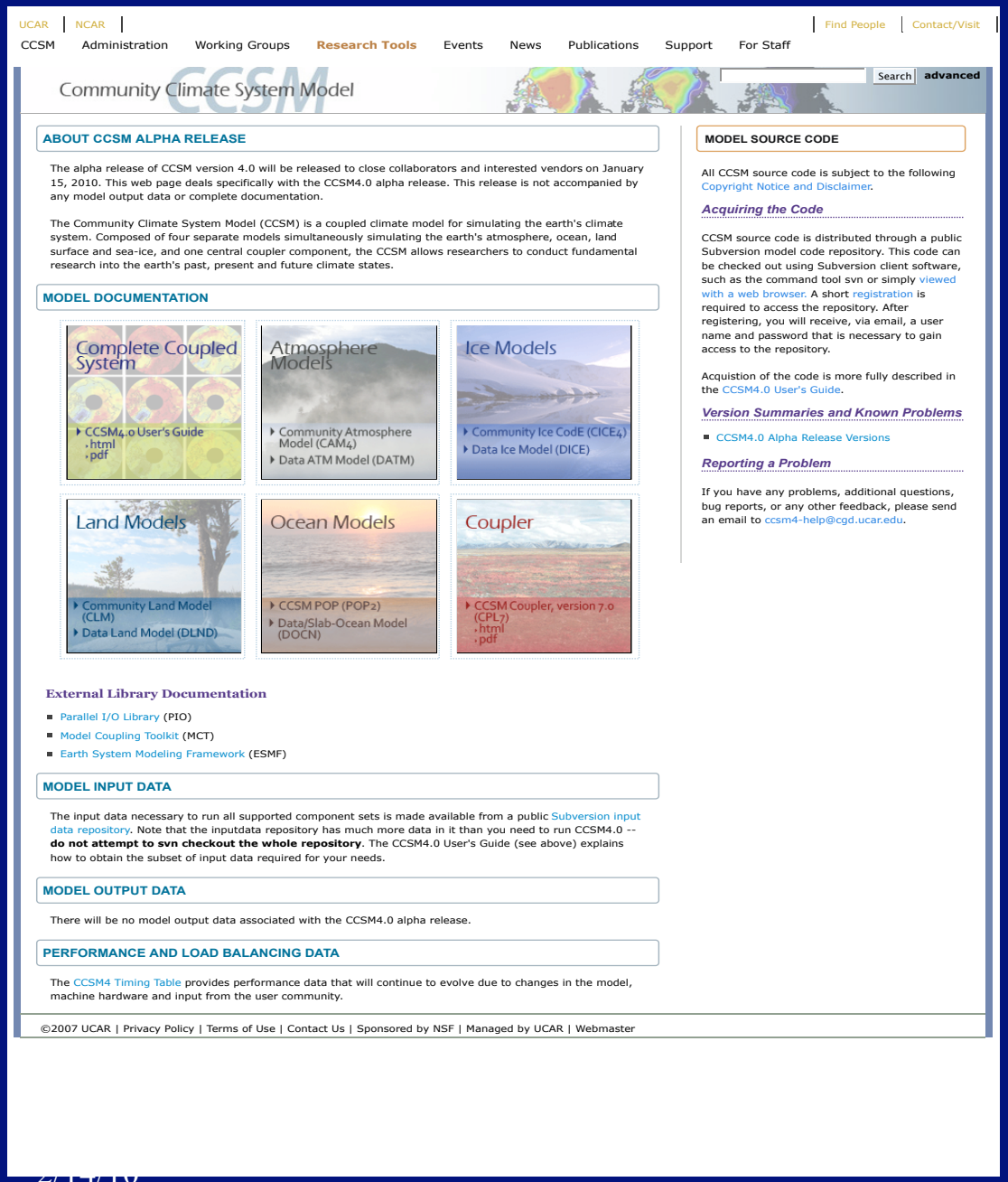
CCSM4 Releases and Timelines

- January 15, 2010:
  - CCSM4.0 alpha release - to subset of users and vendors with minimal documentation (except for script's User's Guide)
- April 1, 2010:
  - CCSM4.0 release - Full documentation, including User's Guide, Model Reference Documents, and experimental data
- June 1, 2010: CESM1.0 release
  - ocean ecosystem, CAM-AP, interactive chemistry, WACCM
- New CCSM output data web design underway (including comprehensive diagnostics)



CCSM4.0 alpha release

Extensive CCSM4 User's Guide already in place

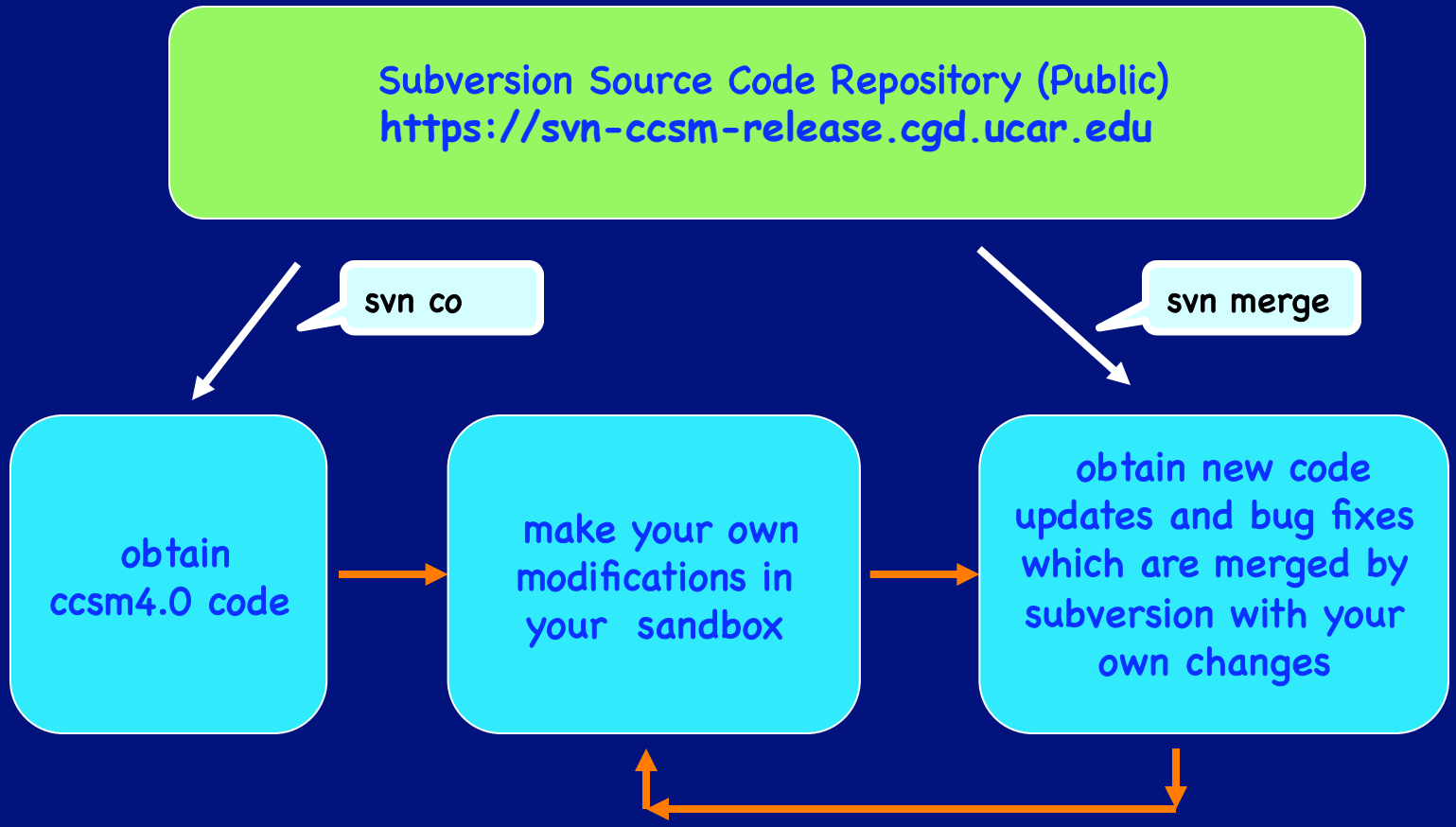
Members of PCWG can apply for alpha user access by filling out registration link at

www.ccsm.ucar.edu/models/ccsm4.0

How will CCSM4 be released?

- Leverage Subversion revision control system
- Source code and Input Data obtained from Subversion servers (*not tar files*)
- Output data of control runs from ESG
- Advantages:
  - Easier for CSEG to produce *frequent* updates
  - Flexible way to have users obtain new updates of source code (and bug fixes)
    - Users can leverage Subversion to merge new updates into their "sandbox" with their modifications

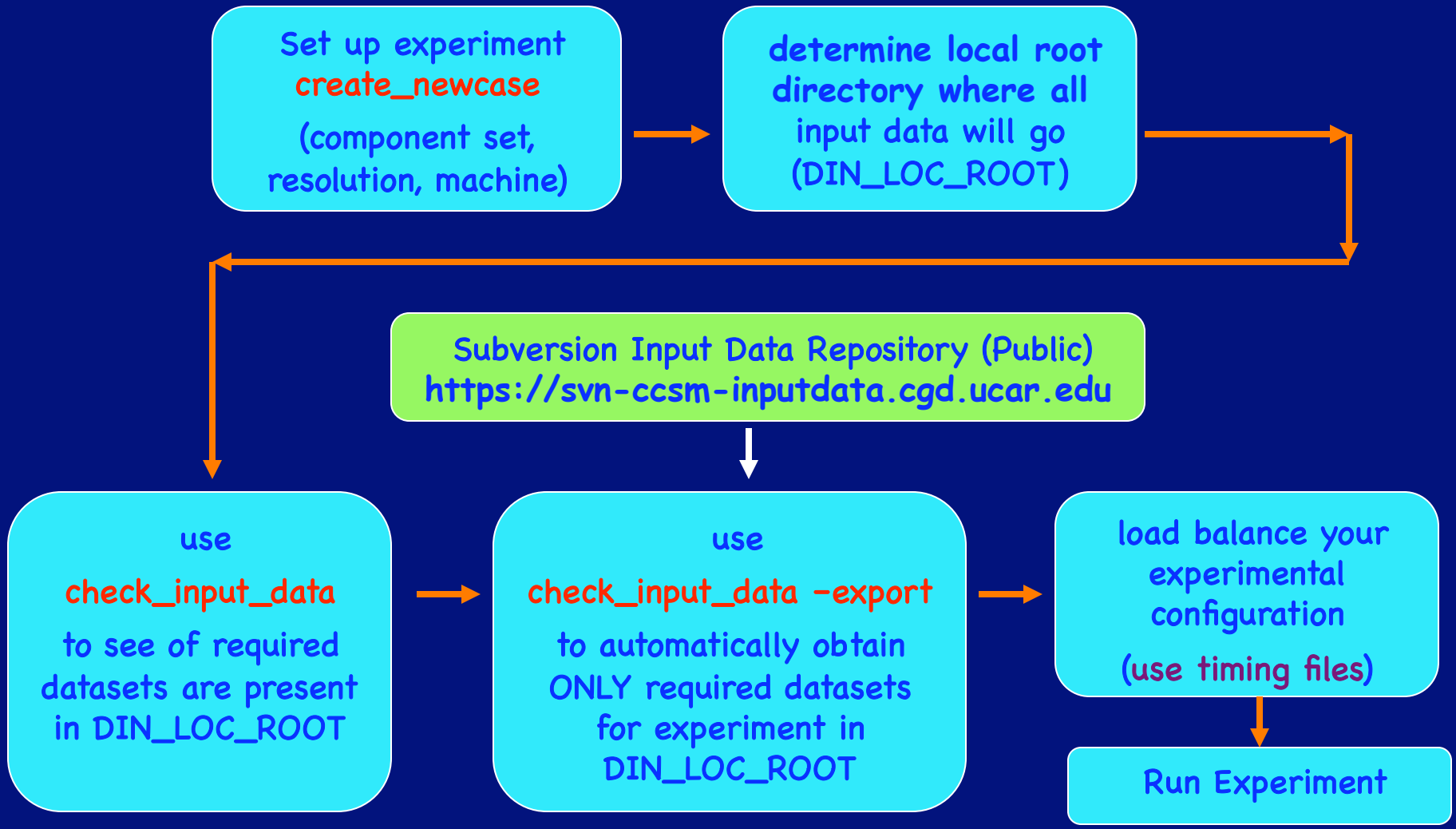
Subversion Source Code Server – Obtaining the Code



Obtaining Input Data

- Input data is now in Subversion repository
- Entire input data is about 900 GB and *growing*
- CCSM4 scripts permit user automatically obtain only the input data need for a given experimental configuration

Subversion Input Data Server and CCSM4 Workflow



Porting to your machine

- CCSM4 scripts simplifies porting process
  - capability to support "generic" machines (e.g. linux clusters with a variety of compilers)
  - user still needs to determine which generic machine most closely resembles their machine
  - user feedback will be leveraged to continuously upgrade the generic machine capability post-release

Load Balancing a configuration on your machine

- Detailed timing information accompanies every run
  - User can leverage this to go through a load balancing exercise (determine processor layout to optimize throughput and efficiency)
- Timing tables are also available from the release web page for some standard configurations
  - This table will be expanded based on post-release user input

What is being released in CCSM4.0?

- A large variety of model configurations
  - Resolutions, component sets and machines
    - Includes .1° POP/CICE and cubed sphere HOMME dynamical core at 1° and 1/8°
- Functional versus Scientific "support"
  - Scientific support will include associated control runs (1850CN at 2 and 1 degrees)
  - Functional support will only encompass verifying that configuration can run "out-of the box" and pass restart tests on a few machines