

System Integration Breakout Session

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Breakout participants

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- Adam Bertsch - LLNL
- Jeff Broughton - LBL
- Nick Cardo – LBL
- Steve Monk - SNL
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* Denotes breakout session lead

Processes (scope of activity)

- Vendor partnerships as R&D to potentially shape future procurement
- Need Test/Dev system for early access
- Assume acquisition and facilities are all ready
- Logistical challenges based on site
- Integration into operational infrastructure ASAP
- Acceptance testing development is iterative process
- Acceptance testing automation is highly important
- Integration and operational teams need not be different people
- Provide transition to operations/early science periods
- Continue to run validation through the life of the system

Processes (scope of activity), cont.

- Before procurement working with vendors to see what is available; shaping product/system through roadmap updates
- Potential for loss of continuity with new RFP processes
- Write in Test/Dev systems into procurement

Processes (scope of activity), cont.

- Early HW/ Prototype systems
- Multiple vendors help understand capabilities
- Feed acceptance test requirements
- Helps code development for users
- Helps integration into operational infrastructure

Processes (scope of activity), cont.

- Vendor Partnerships

- Regular meetings discussing product roadmaps
- Can hopefully make suggestions to improve
- Both sides benefit from this type of discussion
- All labs have this in place currently
- Dedicate staff to cultivate/grow vendors who participate

Processes (scope of activity), cont.

- Acceptance testing development/execution
 - Develop a testing harness that is automated
 - Automate the verification/validation
 - Failure is not an option
 - Can handle through milestone generation
 - Vendor partnerships are important if you get into this state

Processes (scope of activity), cont.

- Integration into operational infrastructure
 - Bring into configuration management ASAP
 - Helps keep Lab staff and vendor honest
 - Improves reliability between tests
 - Insures that final config to users is the prescribed one

Processes (scope of activity), cont.

- What resiliency activities are executed?
- Build resiliency thinking in to as many processes and steps as you can
- Use formalized update process to limit risk to large resource
 - Test system, validation, then to large system
- Early access of final system is useful to users and operational staff

Organization and management

- How teams are structured is up to each site
- Do not need to be separate
- Separation can lead to loss of continuity
- Documentation can help
- Regular documentation review is important

Experiences and lessons learned

- We cannot have enough people looking at the process
- Project management techniques can help us identify issues
- What are your unknown unknowns?
- Documentation of good and bad for the future

Effort estimate

- Compute systems are much larger efforts (years)
 - Can have facility tasks intertwined
- Midrange systems require less effort (months)
- Filesystem/Archive systems are likely ongoing efforts

Most significant observation

- We need to come back and do this more often (and have a little more time to do it)
- System documentation and regular documentation review is important to operations and future system integration successes