

Ambition

- ▶ The LHC experiments will enter a long shutdown period in 2013 and 14
 - ▶ A unique opportunity for significant changes
 - ▶ Now is the time to propose
- ▶ All the areas should be ambitious in proposing changes to improve the situation
 - ▶ Not all the changes will be accepted by the experiments, or the management
 - ▶ The prospect of not succeeding shouldn't discourage the suggestion
- ▶ A lot of the document currently summarizes what's currently done.
 - ▶ This is not a bad place to start if it causes people to think about why things are done. It would be a missed opportunity to finish that way

Principles

- ▶ Good Operations are driven by having a set of principles that turn into action
 - ▶ In all recommendations we should indicate what principle we're trying to come back to
 - ▶ A few example Principles
 - ▶ Reduce Complexity
 - ▶ Improve access to information
 - ▶ Reduce Reliance on actions of others
 - ▶ Reduce effort to upgrade and reconfigure
 - ▶ Improve reaction to service/hardware failure
 - ▶ Deploy services that have scalability 2-3 times above the average load
 - ▶ Reduce Operations Effort

Software Deployment

- ▶ Recommendation:
 - ▶ Reduce complexity, reduce service expectations, improve scalability
 - ▶ Get rid of authorization process for external software installation
 - ▶ Get rid of shared software area
- ▶ CVMFS is a possible technical recommendation
 - ▶ Reduces but does not eliminate actions of others

Monitoring

- ▶ Recommendation: Central Monitoring activity
 - ▶ Principles: Reduce Operations Effort

Operations Improvements

- ▶ We don't have a good track record for designing for operations
 - ▶ We design for functionality
 - ▶ We rework for scalability
 - ▶ We work around for operations
- ▶ Optimization is about the most cost effective thing you can do
 - ▶ Yes we never have resources to do it