# McFarm on Generic Clusters

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# Introduction

- McFarm is a very nice piece of Software which can almost Fully Automate D0 MC Production and Storage into SAM, including Bookkeeping
- Installation requires root access, though
- Made lot of Progress to reduce root Dependence and the extent to which the Cluster expected to be dedicated to McFarm Production
- But still not Completely Independent

# Generic Cluster/Batch System Setup

- Ideally, McFarm should be Installable in a regular user account without root access and Configurable with Environment Variables rather than Soft Links in root controlled areas
- McFarm should submit the MC Jobs to the Local Batch Scheduler, rather than deciding what node to run on
- With fast Network Connections and Large Disks on all Worker Nodes, Locality of Input/Output files no longer That Critical

# Possible Workarounds for current McFarm software

Attempt to use Current McFarm Software to create “Virtual McFarms” under existing PBS Scheduler:

- Submit Multi-Node PBS Job (up to 32 Nodes)
- Setup McFarm inside that PBS job, as if it were a dedicated Cluster
- Run McFarm Request, gather Output back to the “Head Node” – PBS Master Node, and from there back to OUHEP Sam Station
- Break Down McFarm Cluster at the end of the PBS Job

# Progress

- Biggest Hurdle until this Week: Intercommunication between OSCER Batch Nodes not possible because of Security Concerns
- Solved that Problem with Home-Cooked Scripts which can be called like ssh
- Now Work can continue with Implementation of “Virtual McFarms”
- Will not be Trivial because Automation of McFarm setup not Easy

# Summary

- Ideally, in the Not-Too-Distant Future, McFarm should be able to run on Generic Shared Clusters like OSCER
- This will require quite a bit of Work, and Resources are Limited
- Short Term Solution would be to implement “Virtual McFarms” under existing Multi-Node Batch Systems
- That requires full Automation of McFarm Setup, which is Non-Trivial
- First Step has been accomplished at OSCER
- Plenty More Work to Do