WP4 : Software Tools

Deliverable 4.2: Stress test of g-2 analysis framework with 10^11 simulated Muon samples (UCL, M12)

- **MDC0 complete : 100 million events**

    Used for testing geometry and data products, checking storage size, memory and speed

    Allowed development and testing of digitization into detector hits

    Improvements made based on this for MDC1

    https://redmine.fnal.gov/redmine/projects/g-2/wiki/ProductionSummary
    http://gm2-docdb.fnal.gov:8080/cgi-bin/RetrieveFile?docid=3755&filename=MDCStudies.pdf
    http://gm2-docdb.fnal.gov:8080/cgi-bin/RetrieveFile?docid=3752&filename=collab_meeting_mar_2016_stuttard_mdc0.pdf

- **MDC1 : 100 billion events**

    Start processing within the next month – updating GEANT and art versions

    Includes improvements to the geometry, smaller data size, verification plots

    Will be used for practice analyses (size of the BNL dataset, ~10% of expected g-2 data size)

- **MDC2 : 100 million events**

    Using the inflector gun (fully tracks the muon orbit)

    Will be used for studies that require the full muon orbit (e.g. lost muons)