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# ATLAS Tier 3 Introduction

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# What is a Tier3?



- Working definition
  - “Non pledged resources”
  - “Analysis facilities” at your University/Institute/...
- Tier3 level
  - The name suggests that it is another layer continuing the hierarchy after Tier0, Tier1s, Tier2s...
    - Probably truly misleading...
    - Qualitative difference here:
      - **Final analysis vs simulation and reconstruction**
      - **Local control vs ATLAS central control**
      - **Operation load more on local resources (i.e. people) than on the central team (i.e. other people)**

# What is a Tier3?

- Comments:
  - No concept of size (small Tier3 vs big Tier2...)
  - Tier3s can serve (and be controlled by) a subset of the ATLAS collaboration (local or regional users).
- Non-pledged resources does not mean uncontrolled or incoherent
  - Need to provide a **coherent** model (across ATLAS)
    - Small set of template to be followed while setting up a Tier3 for ATLAS users.
  - Coherent because:
    - Guarantee no negative repercussions on the ATLAS Grid (service overload, additional complex manual support load) by the proliferation of these sites

# Purpose of a Tier 3

- Tier 3's (and experiment computing in general) are tools to aid the Physicists in their work
  - Work – analyzing the data to make measurements and scientific discoveries
  - The computing is a tool and a means to an end
- Tier 3 Productivity
  - The success of the Tier 3's will measured by
    - **The amount of scientific output**
      - **Papers written**
      - **Talks in conferences**
      - **Students trained (and theses written)**

# Tier 3 Types

- Tier 3's are non pledged resources
  - Does not imply that they should be chaotic or troublesome resources though
- Atlas examples include:
  - Tier 3's collocated with Tier 2's
  - Tier 3's with same functionality as a Tier 2 site
  - National Analysis facilities
  - Non-grid Tier 3 (Tier 3g) (most common for new sites in the US)
    - Very challenging due to limited support personnel

- Talks in this session were selected to cover the issues associated with Tier 3 sites across ATLAS
- Preview of the new ATLAS Tier 3 policy
- Existing tools available and tuned to Tier 3 usage
  - Panda – Alden and Tadashi
  - DDM data access tools and rules - Simone
  - Job functional testing and evaluation (Hammer cloud) – Dan

- Upcoming Tier 3 development
  - Tier 3 monitoring project – Julia
  - Xrootd monitoring – Andy
- Tier 3 and beyond
  - Xrootd demonstrator Doug and Charles
- 5 minutes given for questions/ discussion between talks (except this one)