UIUC T2 Requirements

Basic constraint: as much CPU and storage bang/$$ as possible with hardware of a sufficient quality to be manageable

Also, we have some weak "certification" (benchmarking) based on ATLAS application testing

Requirements for
- CPU
- Storage
- Memory and local scratch (mainly worker node issues)
- Local I/O: Internal disk and network flows (e.g. between worker node and storage)
- Network I/O between our site and others (primarily UC and IU, but federated data access will come into play)

This is a complex system that is part of an even more complex organic whole. Many free parameters. For example, I/O requirements drastically affected by access model

1. stage-in, read from local disk on the compute node (.... which has implications for #local spindles, #GB / job slot)
2. read from (locally) network attached storage (which has implications for the per job slot, per node and aggregate IO bandwidth)
3. read from WAN network attached storage (same, but now implies the wide area network as well)
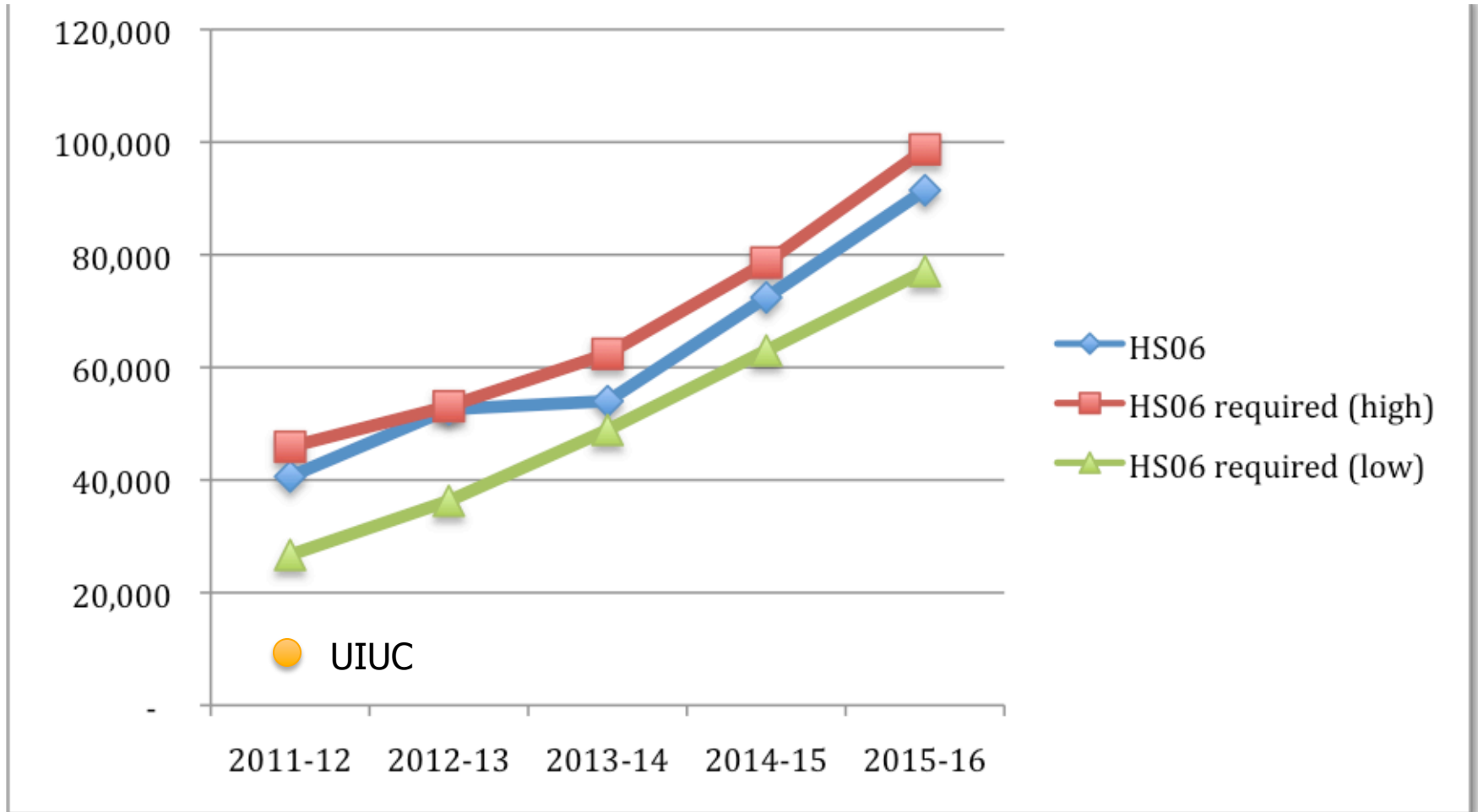
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CPU

- Minimum ATLAS worker node requirements (based on "job slots" (JS), i.e. running a single ATLAS application). These are only for guidance: will evolve over time
  - Memory: > 2 GB / job slot (likely increase over time in service)
  - Local scratch: 1 spindle / 8 JS (3 TB drives → 384 GB / JS)
  - Disk I/O
  - Network I/O

- C6145 not good choice for ATLAS right now
  - Poor scaling for ATLAS application seen in benchmarking after 8-10 concurrent jobs (out of 64 cores on a motherboard)
  - Our plan is to deploy Dell R410 w/ 6-core Intel 56xx series initially
    - ❖ Some negotiated pricing b/c of poor C6145 performance underway

Proposed Storage for MWT2