

Xrootd and ALTAS Analysis support

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Data types in Federation



- In ATLAS most analysis use D3PD's (Ntuples)
- Using Top group as an example –
 - Produce dAOD's from AOD's
 - Produce D3PD's from AOD's and/or dAOD's
 - 100 dAOD events – 6563596 Bytes or 65 kB/event (Jet data)
 - 100 D3PD events – 2160646 Bytes or 21kB/event (Jet data)
 - 100 dAOD events – 9862432 Bytes or 93 kB/event (electron)
 - 100 D3PD events – 2845004 Bytes or 28 kB/event (electron)
- Still some analysis work with AOD's



NTUP/D3PD analysis changing



- Group D3PD's quite large and general
 - Top NTUPLE > 3000 branches (was up to ~ 5000 branches)
 - Most people use 100-200 branches in an analysis
 - Efficient analyzers have learned to slim the ntuples down to a more manageable size
- More and more ntuple activity will have to occur on the grid



Challenges



- People are actively doing analysis
- Anything new must help them.
- People will try something only if they personally see the benefit.
- How will Xrootd federation help analysis?
- What is the direction this federation is heading?
- Slimed ntuples need organization and categorization (meta data?)





Is the nature of Xrootd federation changing?



- Do we have two use cases?
 1. Tier 1/ Tier 2 use case
 - Federation within Tier 2's
 - Federation between collocated Tier 3 sites and Tier 1/ Tier 2
 2. Stand alone Tier 3 use case
 - How do we make the federation help to them?
 - Can federation help these sites be collocated





How can US ATLAS Analysis



Support Help?

- Do we have enough “Standard Candles”?
- What testing do we need to do?
- How do we coordinate this with ATLAS wide activities?
- Can we improve WAN performance for our D3PD's
 - Could lead to Software changes
 - Data format changes
- What tools are missing ? (organization)