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Computing model update – Distributed Computing, Computing services

Background

- Mostly driven by the work of the TEGs etc over the last 2 years (since data workshop in Amsterdam), etc.
- Emphasise commonalities (actual and potential)
  - Justify and explain differences between experiments
- Describe sustainability of support and operations
- Mention middleware/services development, maintenance plans

Distributed computing

- Use cases/functions
  - Archive (tape)
  - Data processing (calibration, reconstruction, reprocessing, etc)
  - Simulation, event generation
  - Analysis (organised and individual)
  - Stripping or similar
  - Data distribution
  - Services for experiments (e.g. databases,…)
- How to map these on to sites?
  - Current definitions of Tiers too rigid?
  - Don’t need more archive sites(?)
  - But do need large sites with data distribution capability
  - “Credit” for providing various services
  - How to make best use of [cloud, opportunistic, badly networked, …] sites
- Define needs for each type of use case/computing activity
- Expectations of different levels of service (i.e. today a Tier 1 is expected to be most reliable)

Computing services

- Workflow management:
  - Use of pilots, implementations, needs for interfaces at sites, use of cloud interfaces
  - Strategy for future – CE vs Cloud, “glexec” problem
- Data management:
  - Strategies for use of tape, disk, data popularity, data federations etc.
  - Access controls and security
  - Storage solutions
  - Remote I/O
  - I/O benchmarking
  - Simple storage abstraction for opportunistic resource use

Computing services – 2

- Distributed computing services (“grid middleware”)
  - Describe all services required – which are common between experiments, which are unique (and why)
  - Deployment: central vs distributed
  - (info service, software distribution, etc)
- Database needs
  - Relational, others

Operations & infrastructure services

- Operations coordination and team
  - Deployment of services, updates, integration etc.
- Operations tools and monitoring
  - Accounting, testing, monitoring, ticketing, etc
- Operational security aspects:
  - Coordination of operational security
  - Risk analysis
- Security developments:
  - Federated IDs?