3D Application Tests
COOL and FroNtier test plan proposals

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3D application tests

- ## 3D Application test bed is in place
  - First replication stability tests look promising
- ## Need to proceed with some real application tests now
  - Need to determine the size the service for T1's
    - What hardware is required / is available?
  - Need to defined concrete deployment models
    - And determine scalability of alternative approaches
  - Requests should be discussed here
    - Should be delivered to the T1/T2 sites by the experiments (as this seams to be the established practice in LCG)
- ## Need to agree on a schedule based on
  - Experiment priorities
  - Existing production application,

Proposed Focus: Conditions

- **COOL production release has happened**
  - Performance and scalability tests ongoing
  - Reference work load implementation exists
  - ATLAS and LHCb have requested distributed deployment

- **Some manpower became available to the project**
  - Stefan Stonjek will be able to work 50% of his time on setting up and running the COOL tests together with the testbed sites

Proposed COOL test setup

- **Define a complete end-to-end setup**
  - T0: install database and work load
    - Based on existing validation test software
  - T1: install replicas
    - Need to connect master db at CERN to testbed nodes at T1's
  - T2: establish extraction procedure
    - Need to define MySQL package for T2
    - Need to define T2 testbed sites (Chicago, Oxford,?)
    - Develop extraction procedure for subset of data
- **Once up and running**
  - Test scalability with T0, T0+T1, T0+T1+T2

COOL Tests: Site Installation

- **T0 installation on testbed (2weeks)**
  - Pickup upcoming COOL 1.2 release (Andrea)
  - Agree on test schema and fix it (Stefan/Sasha/Dirk)
  - Develop replication scripts (Eva)
  - Start modes (but permanent) workload
- **T1 Installation of COOL replica (1week)**
  - Complete OEM configuration for sites which are missing (site reps)
  - Apply replication scripts (site reps)
  - Start replication process (Eva/site reps)
- **T2 Install of MySQL and COOL snapshot (2 weeks)**
  - Define MySQL installation kit (Sasha/T2 reps)
  - Define extraction process and frequency (Stefan/ATLAS)
  - Start regular extraction and apply at T2 (Stefan + T1/T2)

COOL Tests : Client Setup

- **Define client software package (2 weeks)**
  - Vanilla COOL or full experiment package (Stefan/Sasha)
    - In the latter we can maybe take advantage of the established experiment s/w distribution to sites
    - But we would need a compatible packaged release of the experiment s/w
- **Check allocation of required client nodes**
  - Initial tests can hopefully run with limited client resources at T1/T2 (Dirk/Sasha)
- **Run the tests… (Stefan)**
  - Outcome:
    - How many clients can run against
      - T0 test system alone
      - T0 + n*T1
      - T0 + n*T1 + m*T2
    - A few new deployment issues :-)

FroNtier + RAL

- **Discussions between POOL and FroNtier on transparent integration**
  - Allow also other LHC experiments to evaluate squid cached database access
- **Proposal:**
  - Open the FroNtier server also for user defined queries (rather than only predefined one)
  - Develop a POOL/RAL plugin that provides read-only access via the frontier client
  - Test cached query access from RAL applications

Proof-of-concept Testplan

- Agree on a mechanism to ship the query (Sergey/Radovan)
  - URL or post
  - Encoding
- Develop a prototype RAL plugin (Radovan)
  - sufficient for proof-of-concept tests (2 weeks ?)
- Develop a changed FroNtier server (Sergey)
  - Almost done?
- Provide squid installation kit (Sergey?)
  - and document T1/T2 configuration
- Apply squid install kit (T1/T2 reps)
- Define schema and populate the backend db (??/CMS)
- Develop a direct frontier base work load (??/CMS)
- Write a RAL based client work load (??/Radovan)

Frontier client tests

- Run CMS work load against T0 setup (DB+Frontier)
  - Direct FroNtier client
  - Direct RAL client
  - RAL/FroNtier client
- Compare scalability
- Collect deployment experience