RECENT ACTIVITY AND PROPOSALS

DYNAFED

SHOAL

SIM@P1

NEWS ON DYNAFED

GRID STORAGE

- Source storage sends Request-Digest (RFC3230) header to target
- Source checks consistency
- Source takes action

CLOUD STORAGE

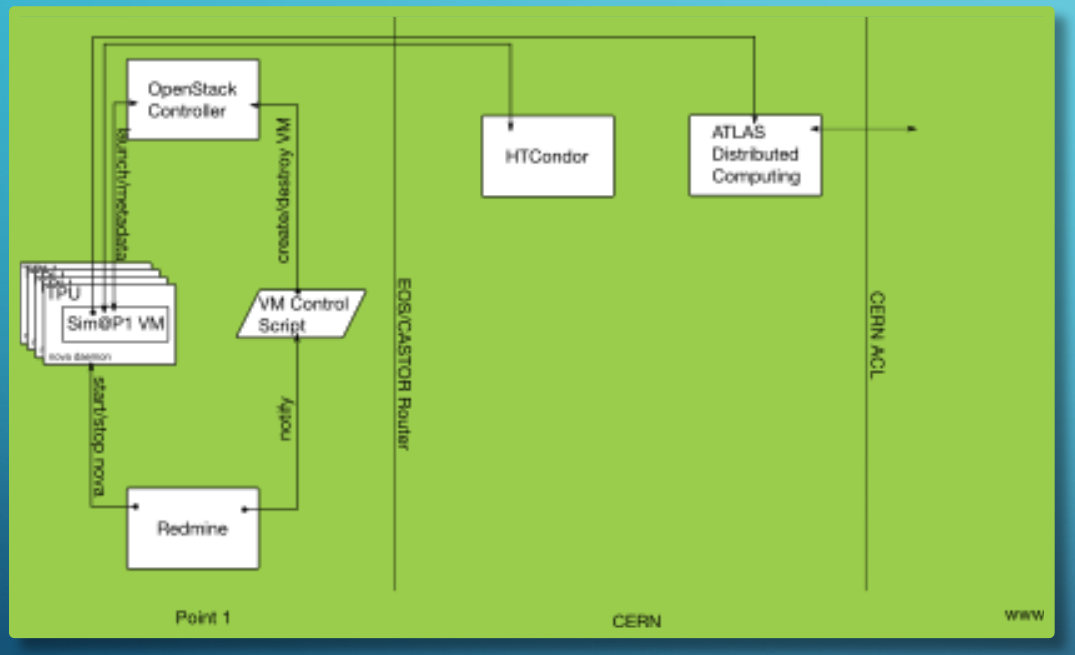
- Source storage sends put with Content-MD5 (RFC 2616) header
- Target reports successful copy only if data matches MD5
- Target does not store content if check fails

- Tasks: what does it mean to use md5 rather than adler32?
- What do we loose (?) if we go the cloud way?

NEWS ON SHOAL

- Support for frontier has been running in CERN-PROD_CLOUD(_MCORE) for a couple of months
- Was needed to include LRZ resources seamlessly
- Ask to update shoal-client in CernVM system

SIM@P1: CURRENT SYSTEM

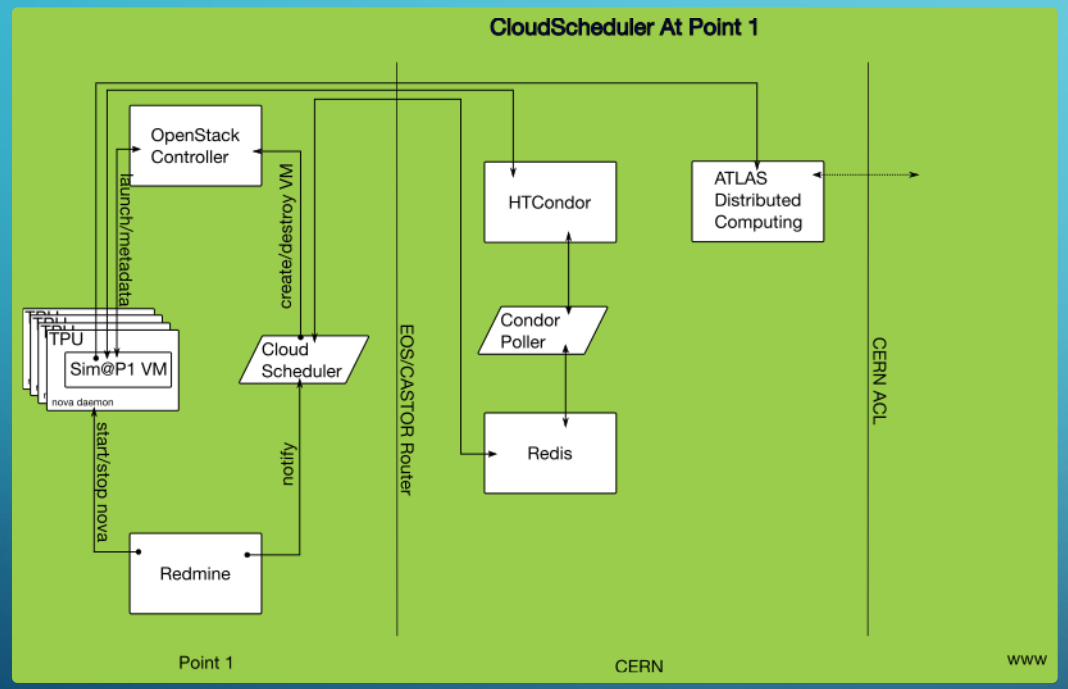


- Working system
- Help from CERN IT experts (HTCondor, OpenStack)
- Complex and requires custom scripting
- System needs updating when HLT upgrades

SIM@P1: PROPOSALS

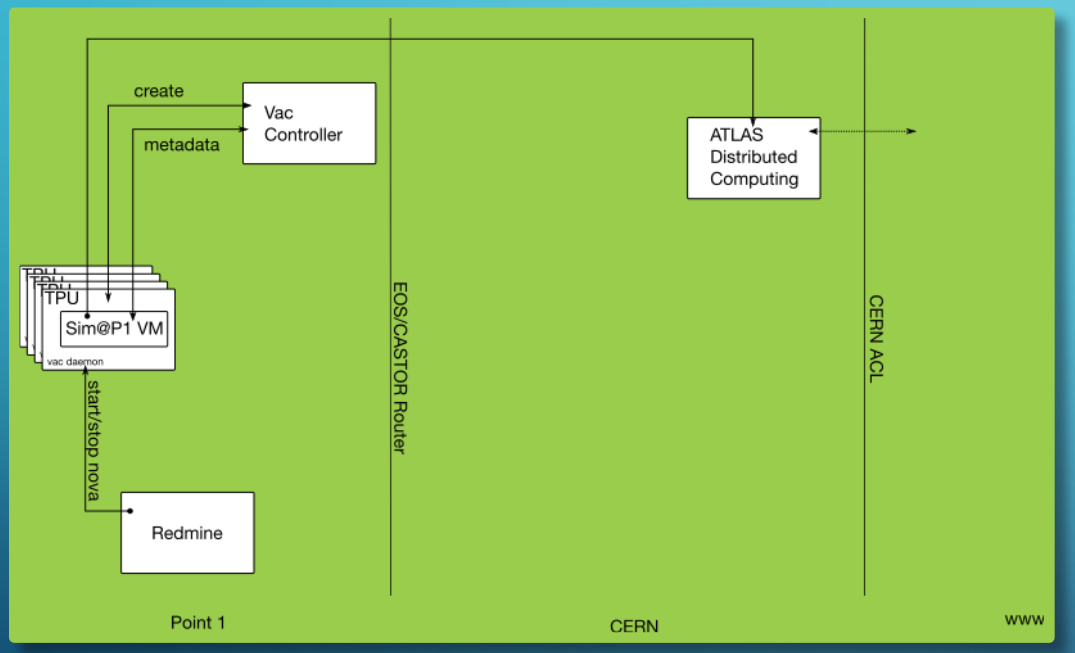
- Cloud Scheduler inside P1 network manages instances
- Vac inside P1 replaces OpenStack and manages instances
- KVM/Virsh Puppet runs script that virsh creates/destroys instances
- Containers: I (Frank) do not know enough about HLT operation and container systems to make serious recommendations
- Plan: build a demonstrator this winter

SIM@P1: CLOUD SCHEDULER



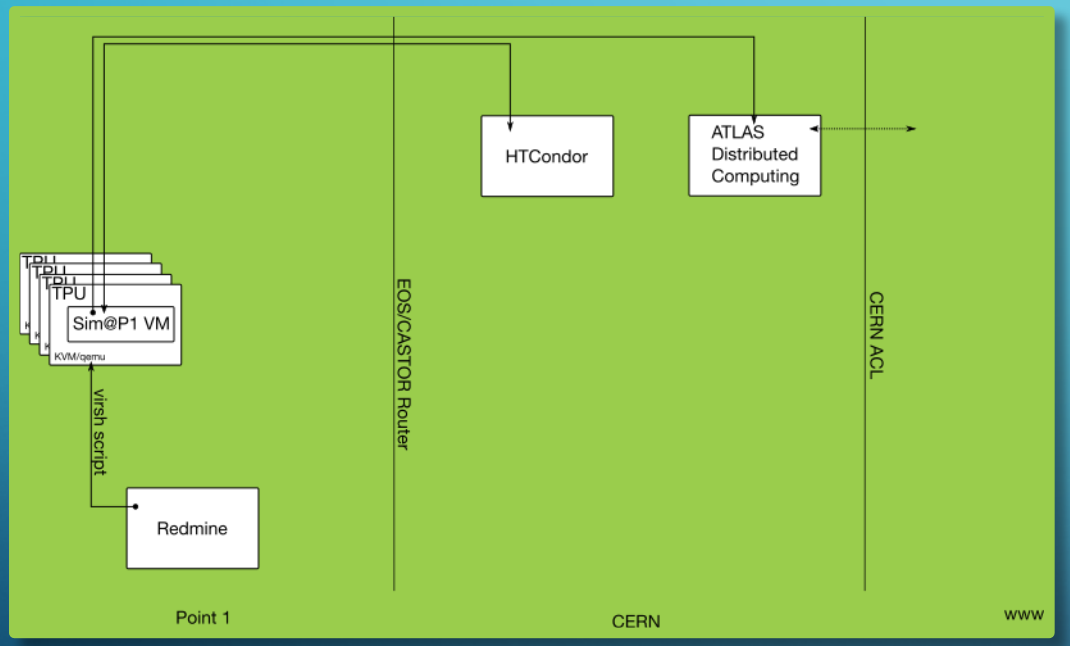
- Use tools proven to work in ATLAS
- Flexible
- Team of developers funded outside ATLAS
  - Current rewrite of cloud scheduler
- Requires a new connection between P1 and CERN network

SIM@P1: VAC



- Vac has been shown to work with ATLAS
- Support by GridPP group (Andrew and Peter)
- Could start by using the existing condor system
- Simpler system, should be easier to maintain

SIM@P1: KVM/VIRSH



- Fully isolated VMs
- Cloud replace HTCondor by adding the pilot wrapper and a long-lived proxy into VM image
  - Security risk for ADC?
- Very simple
- Least flexible

THANK YOU

SIM@P1: CONTAINERS

- Mesos:
  - Overprovisioning feature may provide a solution for backfilling HLT with Sim@P1
  - Networking/cli may allow us to associate different VLANs to containers depending on whether they are HLT or Sim@P1
- Kuberneses has some add on developed by the HPC community that may fit Sim@P1