WLCG
Middleware Validation

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Landscape after EMI

- Summary of the GDB presentation:
  - https://indico.cern.ch/conferenceDisplay.py?confId=197806
- EGI produces UMD releases
  - see Tiziana's presentation at the GDB
- INFN (Cristina) populates the emi repository periodically
  - "blind" copy of **binary** RPMs (dependencies can break)
  - this will end March 2014
- Simplified view: UMD == EMIrepo + Staged Rollout
  - With EMIrepo == PTs + Cristina

Other Services

- ETICS ends in August (no impact)
- WLCG Repository
  - Managed by WLCG CERN (Maarten)
  - HEP_OS libs, xrootd monitoring, info-xx, yaim, vobox....
  - Mostly things that don't fit into EPEL
  - UMD does NOT integrate these packages

What do sites do?

- (UMD or emi) + WLCG + PT packages
  - “WLCG Baseline” defines **minimal** versions
  - EGI + WLCG Operations Coordination drive transitions
  - developments are driven by the WLCG community

Production Readiness Now

- EGI Staged Rollout ensures that material that is in UMD can be installed and doesn't fall over
  - finds certain issues +++
    - mainly deployment related
    - smoke testing
  - **doesn't** cover **all** major WLCG deployment scenarios
  - **doesn't** cover **all** experiment use cases

Problems

- PTs release directly through the EPEL path
  - no emi QA and testing
  - no established inter product tests
  - focus is on self consistency within EPEL
  - RPMs might work or not
- EPEL is based on continuous independent releases
  - UMD is based on snapshots
- Not all material is in EPEL
  - WLCG repository
  - emi repository
  - no consistency test
- Transition from EPEL-test to EPEL-stable is time driven
  - without active intervention the transition happens within 2 weeks

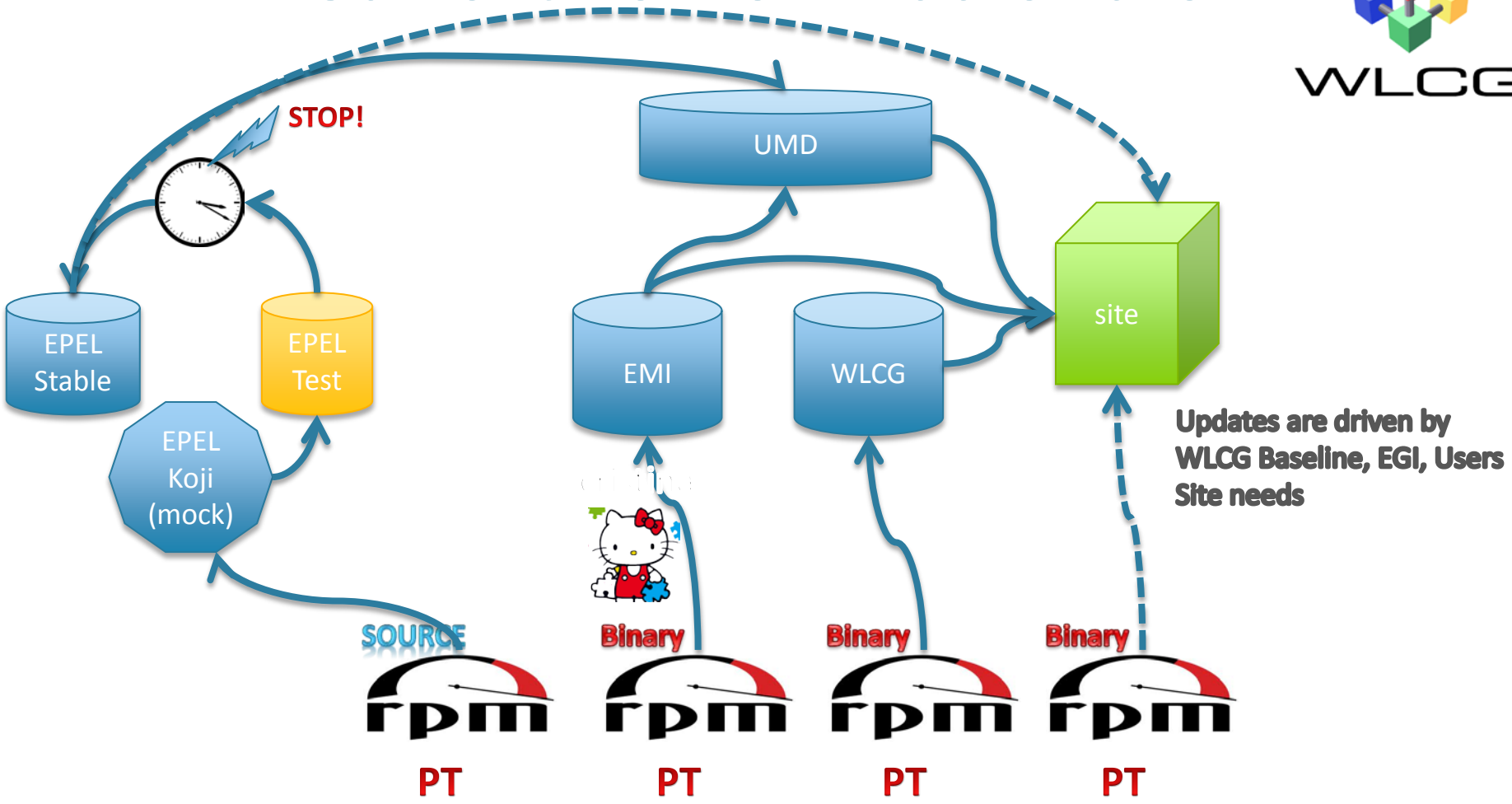
What can WLCG do?

- Fill the gap....
- Model: emi-1/2 WN verification
  - https://twiki.cern.ch/twiki/bin/view/LCG/WorkerNodeTesting
- 6 contributing sites covering
  - all SE flavours
  - all experiments
  - all standard workflows
  - using a fraction of their resources

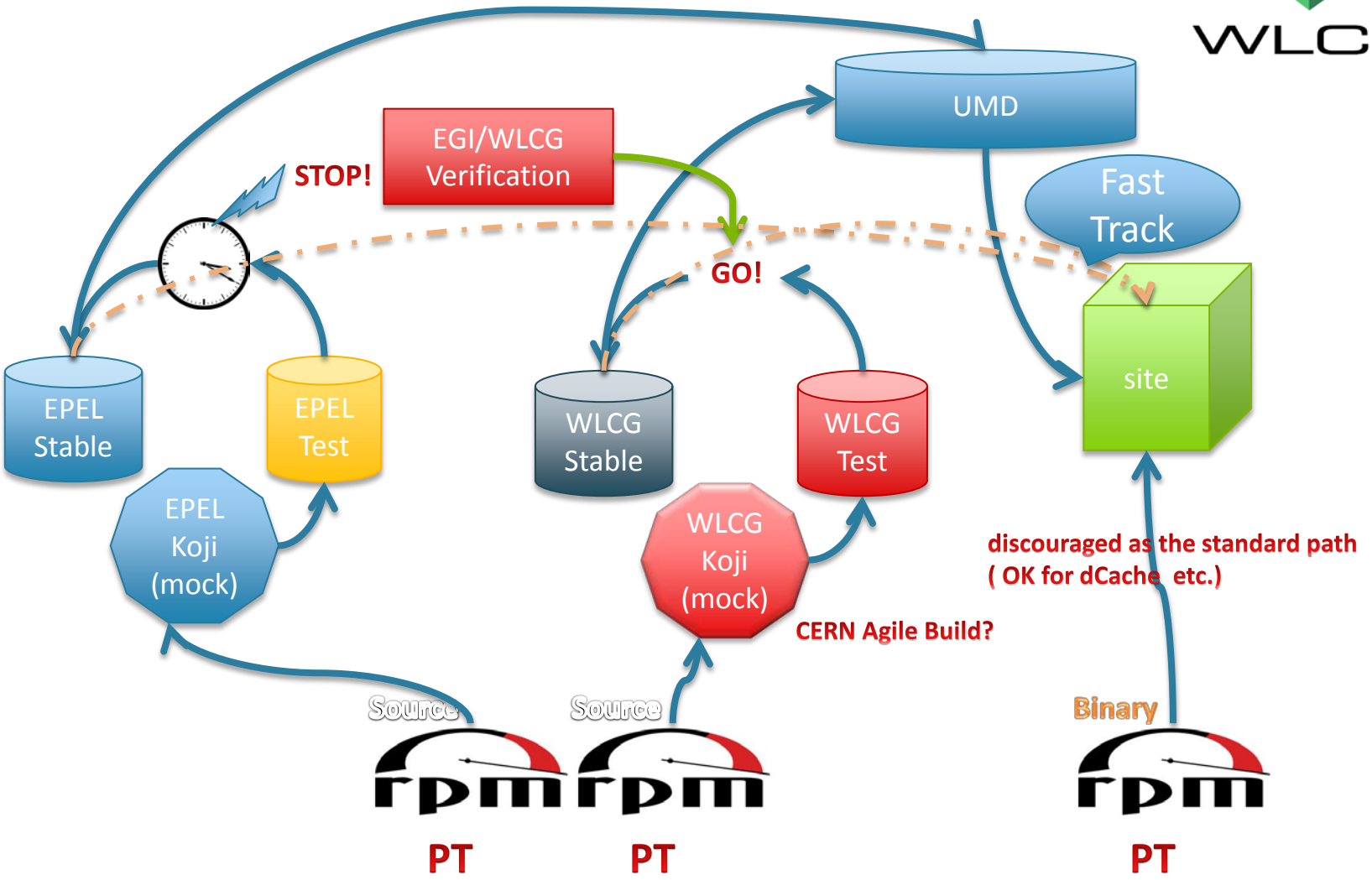
How?

- Turn the ad hoc solution into continuous operation
- Adapt to the future release process
  - driven by EPEL and WLCG Repositories
  - EPEL-Test + WLCG-Test
- Update frequently a small fraction of the resources
  - 10-50 cores/site
- One instance of every service (globally)
- Exercise these resources with experiment workloads
  - Best: **inclusion into the production systems**
    - small fraction of a small fraction of tasks will fail
  - Alternative: Invest in HammerCloud like testing
    - maybe more work and diverge after a while

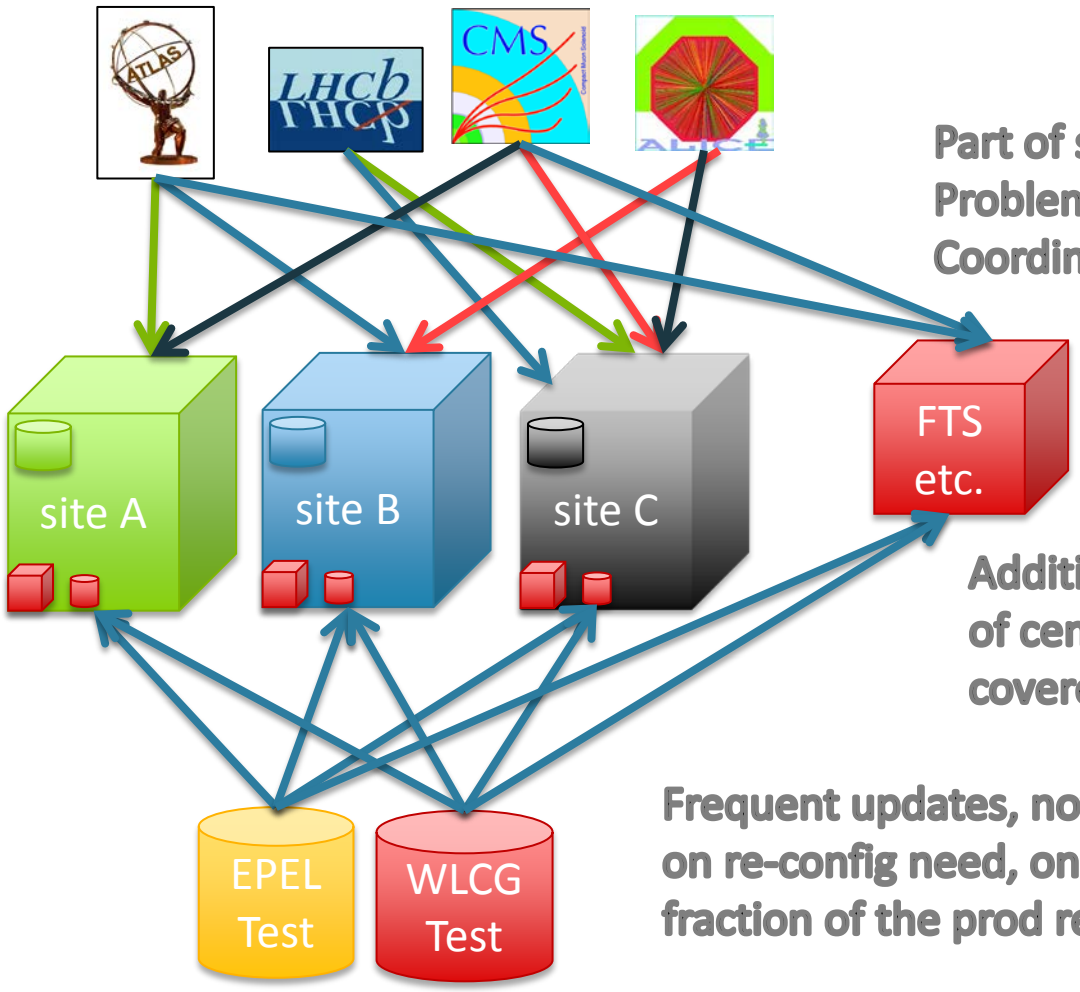
Current flow of middleware



Proposed flow of middleware



EGI/WLCG Verification



Part of standard workflows.
Problem reports to WLCG Ops Coordination

Additional validation instances of central services (mostly covered by common practice)

Frequent updates, notification on re-config need, only on a fraction of the prod resources

What is needed

- Coordination
  - top level: WLCG Ops Coordination and EGI Staged Rollout
  - launch: Taskforce (WLCG+XXXXXX*)
- Resources
  - hardware negligible (10-30 cores/site)
  - human effort
    - 0.1 FTE per participating site (not too many updates per month)
    - follow releases, re-config as needed, report issues.....
- Sites
  - Candidates: T0/T1s and experienced T2s (about 6 sites needed)
  - need to participate in coordination too (rota on watching for re-config, first deployment etc.)
- Experiments
  - targeting the validation resources
  - monitor the behaviour (might need small changes)
  - report issues
    - in general already happening, minor adjustments needed
  - 0.1 FTE per experiment

Is this additional effort?

- Probably not..
- We have done this in an ad hoc fashion
  - harder to coordinate
  - sometimes missing changes
  - complex communications
  - ------

Timeline

- **Spring 2014 it has to work**
- Taskforce should start **September**
  - first activity: identify suitable sites
  - liaise with experiments
- Resource commitments from sites latest by **October**
- Taskforce will then coordinate the setup and development of procedures
  - and follow up on operations