Status of the ROOT-based analysis framework

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BEAN development status

- Database interface (SQLite) is implemented
- The PhotonCor/AbsCor algorithm has been adapted from BOSS
- MagField, Particle ID, Kinematic Fit & Vertex Fit are available
- Can work with DST version 6.5.3
- PROOF is under testing
- Documentation:
  - Examples of analysis are available (Bhabha, Rhopi)
  - http://bes3.jinr.ru/bean/wiki

SQLite database

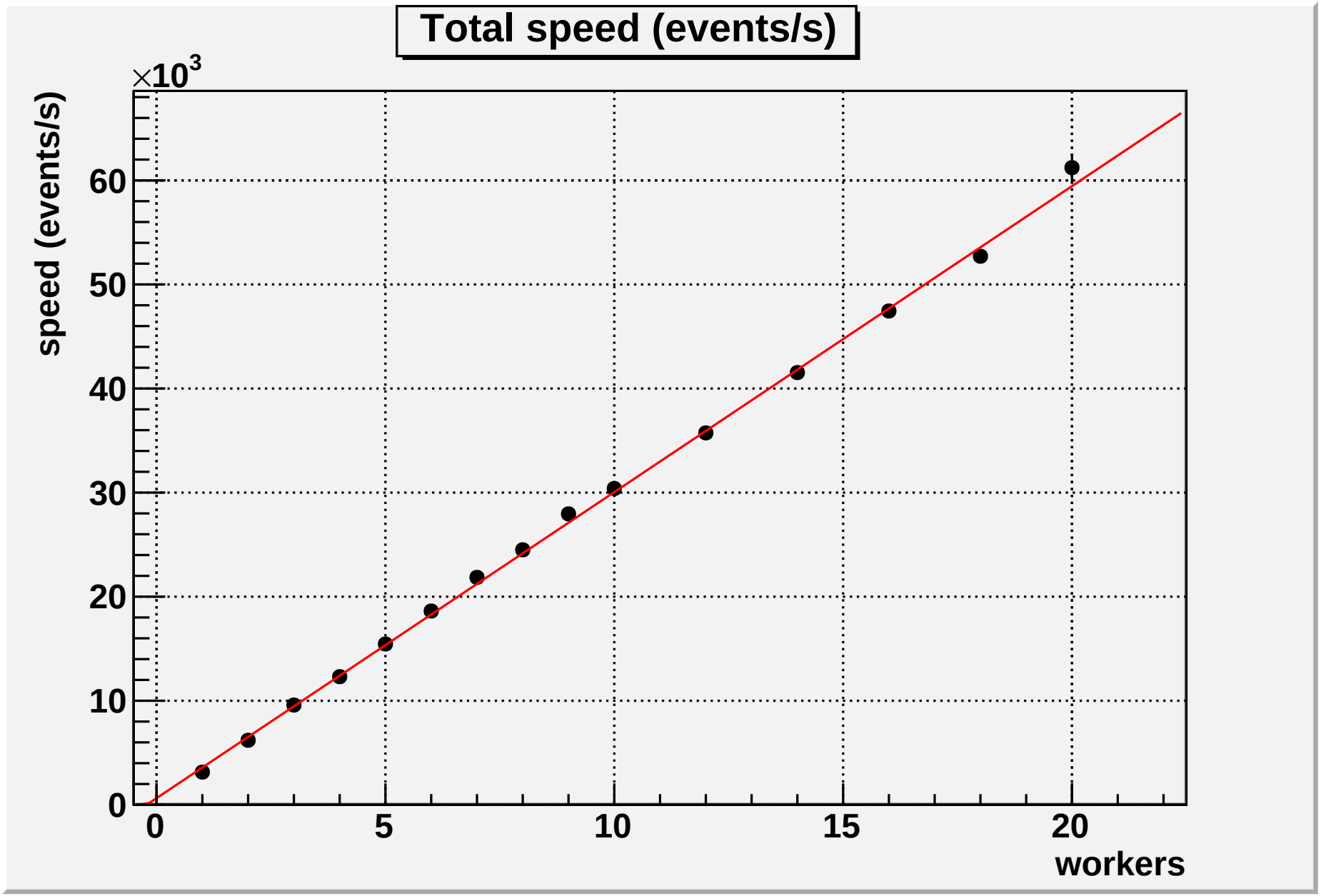
- We use version `DatabaseSvc-00-00-05`
- VertexFit and MagneticField can access database now
- Current version of the database replica is included in the BEAN distribution. Updating tool will appear soon.
- We use reduced version of database:
  - `offlinedb.db + run.db ~ 1.6MB`
- We provide an example of using these classes:
  - `BeanUser/TestDb.cxx`
- Analysis without network connection is now possible

PROOF test on JINR LNP-cluster

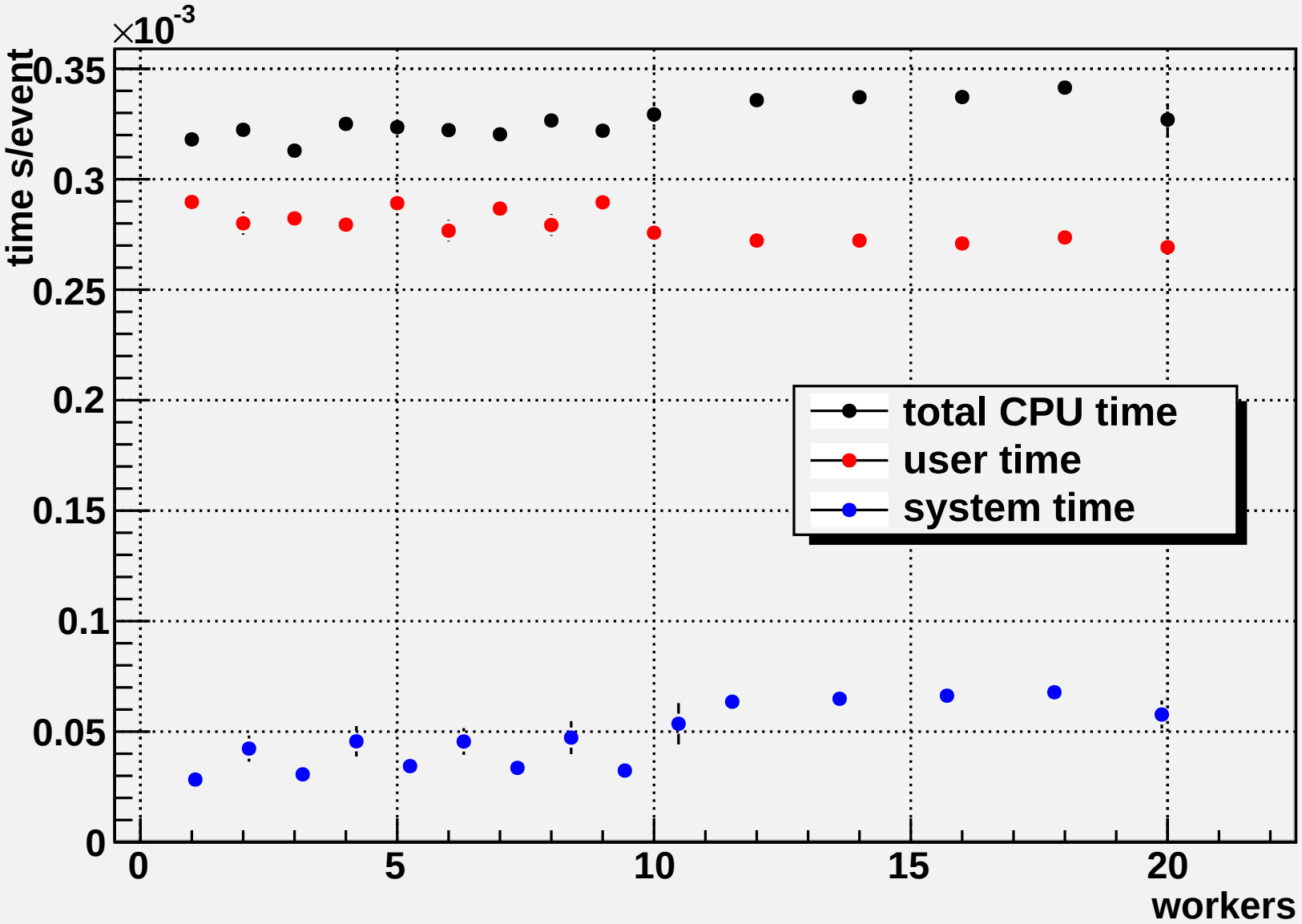
Test conditions:

- 10 Dual cores 3GHz computers (JINR LNP-cluster)
- Scientific Linux-4.8 32bit
- ROOT version 5.26.0; XROOTD & PROOF daemons (services)
- `BeanUser/Bhabha.cxx` program; ParticleID called for all tracks
- 40 files with data of run# 11428; we separate them into 4 files on each machine, $\sim$3GB per working node

Average speed of processing



Average CPU time per event



Summary of PROOF testing

- Use of PROOF gives substantial increase of performance, and works reasonably stable
- System overhead is insignificant
- Advantages of distributed storage (Xrootd) are under study
- Optimal configuration of analysis farm hardware is being elaborated

BEAN wiki: http://bes3.jinr.ru/bean/wiki

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Welcome to BEAN home page. The goal of BEAN is to develop lightweight and simple replacement to BOSS software. Currently BEAN supports KinematicFit?, ParticleID and MagneticField? packages ported from BOSS. It also should be mentioned that BEAN supports PROOF in very transparent way.

For details see:

- HowToInstall
- HowToConfigure
- WhenThingsGoWrong
- HowToWriteYourOwnAnalysis?
- HowToUseProof - to proof related stuff

Conclusion

- This version of the BEAN is ready for use (beta-testing)
- Use of PROOF is possible
- Documentation is available, and being updated regularly
- We would be grateful to receive a feedback

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Thank you!