



WLCG RRB

May 2019

Minutes of the 35th WLCG Resources Review Board Meeting CERN, Geneva, 16th April 2019

Documents can be found in the RRB indico pages; accessible via the LHC-RRB home page <http://cern.ch/committees/LHCRRB>. The attendance list is attached at the end of this document.

E. Elsen, Director for Research and Computing, welcomed the delegates to the meeting. He introduced P. Sinervo as new chair of the Computing Resources Scrutiny Group succeeding D. Lucchesi. The minutes of the last Computing RRB meeting, CERN-RRB-2018-136, were approved without comments.

Status of the WLCG project and financial status report. I. Bird, WLCG Project Leader

I. Bird highlighted the record data volumes collected in 2018 including the very smooth data collection during the heavy ion run, and said that 2021 is assumed to be a light run. Hosting of the Tier-0 resources is assured temporarily (during LS2 and Run 3) in containers at point 8; for Run 4 a new hosting facility (Prévessin Computing Centre) is mandatory, approval of which is still pending. The longer-term planning was the main theme of the joint WLCG – HSF – OSG workshop in spring 2019; concepts around the ‘data lake’ and data management play a major role for the future strategy. While estimates of the requirements for Run 4 continue to largely surpass the expected resources, encouraging progress has been made in some areas, with significant effort of the experiments in joint projects. Finally, I. Bird emphasised issues with the model for cost evolution; previous parameters do not seem to apply any longer, and significant differences between countries have emerged.

Replying to a question by V. Guelzow, I. Bird clarified that the data lake idea still implied some large centres in view of reducing management overhead, even though the centres may not all be at the 10 MW scale quoted sometimes.

Following a remark by V. Guelzow that HPC resources may not be the most cost-effective way to address WLCG requirements, and a comment by E. Elsen that GPUs allow for large jumps in performance, I. Bird said that advantages of GPUs depended largely on the workload; being prepared for using HPC centres is crucial, but no two HPC centres can be used in the same way.

Replying to a question by E. Elsen on cost-effective storage for Run 4 and beyond, I. Bird clarified that the current assumption is that magnetic tapes will be used, but there are serious concerns over market evolutions. Alternatives, which should be addressed in a systematic way with industry participation, will all require changes to the computing models.

LHCC Deliberations F. Simon, LHCC Chairperson designate, on behalf of T. Wengler, LHCC Scientific Secretary

The meeting took note of the oral report.

Status of Common Projects accounts. G. Cavallo, Finance and Administrative Processes Department

G. Cavallo emphasised a minor difference in presenting CERN financial figures between I. Bird's and his report, which is fully understood. He also pointed out that the WLCG common fund is only used for the support of online databases of the experiments.

The meeting took note of the report.

Report from the Computing Resources Scrutiny Group. P. Sinervo, Computing Resources Scrutiny Group Chairperson

P. Sinervo thanked his predecessor, D. Lucchesi, and reported that the Netherlands had nominated P. Christakoglou as new member of the group pending RRB approval. Highlighting a few findings from the C-RSG report, P. Sinervo expressed satisfaction over the rising CPU efficiency, commented that ALICE is still making abnormally high use of disk resources at CERN as compared to Tier-1 and Tier-2 centres, and mentioned that tape pledges are not fully used. He described the resource requests and C-RSG's findings, emphasising the increases, with some uncertainties, for LHCb and ALICE.

E. Elsen added that just before the RRB meeting, Italy had nominated V. Vagnoni as new representative. The meeting confirmed his and P. Christakoglou's nominations.

A. Heiss commented that at KIT, CPU utilisation over pledges in 2018 has been far higher than the 92% shown in the report for Tier-1 centres; this could point to an accounting or pledge issue.

Replying to a question by E. Elsen whether tape usage should be promoted more aggressively, I. Bird explained that this requires care because of required computing model changes and the associated risks that need to be fully understood.

Replying to a question by E. Elsen, P. Sinervo confirmed that the C-RSG recommendations had taken into account that with the end of Run 2, time pressure on most of the productions has decreased.

M. Gast commented that the evolution of LHCb's requirements needs to be carefully monitored, and scenarios must be developed what to do in case of up to 40% higher requirements. E. Elsen replied that the priority for CERN as Tier-0, which continues to be distinct in role from the Tier-1 and Tier-2 centres, is to store the data.

Summary

E. Elsen concluded that while the requirements for 2021 appear to be well under control, 2022 and beyond risks to be very challenging, which will require close follow-up by LHCC, C-RSG and RRB.

E. Elsen thanked the delegates for their support and closed the meeting.

Present:

C. De Clercq (FWO), Belgium)
E. Cortina Gil (FNRS, Belgium)
R. Cesar (FAPESP, Brazil)
R. Shellard (CBPF/RENAFAE, Brazil)
M. Nasser-Edine (Canadian Foundation for Innovation, CFI, Canada)
P. Krieger (University of Toronto, Canada)
O. Novak (Ministry of Education, Youth and Sports, Czech Republic)
F. Krizek, M. Lokajicek (Institute of Physics AS CR, Czech Republic)
K. Huitu, K. Osterberg (Helsinki Institute of Physics, Finland)
E. Delagnes (CEA/IRFU, France)
L. Vacavant (IN2P3, France)
M. Gast (BMBF, Germany)
M. Fleischer, V. Guelzow (DESY, Germany)
W. Ehrenfeld (BMBF/PT-DESY, Germany)
S. Bethke (MPI, Germany)
A. Heiss (KIT, Germany)
F. Siklér (Wigner RCP, Hungary)
N.G. Krishnan (Department of Atomic Energy, India)
B. Choudhary (University of Delhi, India)
K. Mazumdar (BARC, Mumbai, India)
L. Levinson (Weizmann Institute of Science, Israel)
A. Zoccoli (INFN, Italy)
M. Taiuti (INFN and University of Genoa, Italy)
M. Cobal (INFN and University of Trieste, Italy)
G.M Bilei (INFN and University of Perugia, Italy)
R. Sawada, replacing S. Asai (University of Tokyo, Japan)
Chae Su Il, J. B. Lee (National Research Foundation of Korea)
S. Lee (Ministry of Science and ICT, Korea)
K. Cho, H. Yoon (Korea Institute of Science & Technology Information (KISTI), Korea)
S. Bentvelsen (NIKHEF, The Netherlands)
F. Ould-Saada (University of Oslo, Norway)
B. Wosiek (HNIN, Polish Academy of Sciences, Poland)
J. Kitowski (AGH University of Science and Technology, Poland)
M. Pimenta (LIP, Portugal)
A. Fazacas (Institute of Atomic Physics, Romania)
M. Dulea (IFIN-HH, Romania)
V. Savrin (JINR, Dubna, Russian Federation)
V. Egorychev (ITEP, Moscow, Russian Federation)
P. Strizenec (Slovak Academy of Sciences, Slovakia)
B. Mellado, representing D. Adams (University of Witwatersrand, South Africa)
M Garcia Borge (CSIC, Spain)
J. Salt (IFIC, Valencia, Spain)
M. Rännar (Umeå University, Sweden)
E. Rapisarda (Swiss National Science Foundation, Switzerland)
S.C. Lee (Academia Sinica, Taipei, Taiwan)
C. Jamieson, S. Verth (STFC, United Kingdom)
A. Patwa, S. Rolli, T. LeCompte (Department of Energy, United States of America)
M. Coles (National Science Foundation, United States of America)
J. Cochran (Iowa State University, United States of America)
L. Bauerdick (Fermilab, United States of America)

WLCG: I. Bird, S. Campana

CERN: G. Cavallo, E. Elsen (Chairperson), F. Gianotti, F. Hemmer, M. Krammer, H. Meinhard (Scientific Secretary, E. van Herwijnen

Computing Resources Scrutiny Group: P. Sinervo

LHC Resources Scrutiny Group: F. Simon

ALICE: F. Antinori, T. Nayak, M. van Leeuwen

ATLAS: D. Costanzo, K. Jacobs, M. Vincker

CMS: T. Boccali, M. Kasemann, M. Klute

LHCb: C. Bozzi, C. Parkes

Excused: G. Taylor (University of Melbourne, Australia), T. Wengler (CERN), D. Adams (Department of Science and Technology, Pretoria, South Africa),