

WLCG Technical Coordination Board (TCB) mandate

October 15, 2024

Purpose

The Technical Coordination Board (TCB) is to be established within the Worldwide LHC Computing Grid (WLCG) to coordinate the technical challenges and requirements of the WLCG experiments (ATLAS, CMS, ALICE, LHCb and WLCG associate partners) and their computing infrastructure providers for the next 5 and 10 years (primarily LHC Run 4 and Run 5, but also recognising the overlap with SKA, DUNE and Belle-2 data taking, amongst other things). The TCB's primary goals are to conduct a comprehensive gap analysis, develop a technical roadmap, and facilitate coordination among stakeholders to ensure the efficient utilization of computing resources in support of the scientific goals of the LHC experiments.

Objectives

The main activity of the TCB is the formulation and implementation of a multi-year Roadmap for the technical evolution of the WLCG services that has wide consensus in the WLCG experiments as well as infrastructure and technology providers. As a first step, the TCB will conduct a Gap Analysis evaluating the existing technical capabilities, infrastructure, and resources of the WLCG in comparison with the anticipated requirements of the LHC experiments for Runs 4 and 5. Based on the Gap Analysis, the TCB will outline a strategic technical roadmap that addresses the identified gaps needed to enable the scientific programs of the LHC experiments, taking into account the needs of the facilities, technology evolution, and optimizing the utilization of available resources. Since effort and resources are limited, prioritization of technical initiatives will have to be made, guided by the overall impacts, the needs of the WLCG experiments and facilities, the feasibility and probability of success, and the overall alignment with the Technical Roadmap.

Authority and Decision-Making

The TCB should operate primarily by building consensus among stakeholders on technical matters and resource allocation, also through an Open Technical Forum (OTF) that should meet regularly online and in-person to explore topical issues as determined by the TCB. The TCB functions as an advisory body to the WLCG Management Board, to which it should present recommendations and proposals for consideration and endorsement.

Composition and Governance

Two WLCG Technical Coordinators (TC) are appointed by the WLCG Management Board (MB) for renewable terms of two years, with the tasks of setting up and chairing the Technical Coordination Board and leading the WLCG technical evolution. The TCs should be recognized authorities in the field, possess strong leadership skills, a deep understanding of the technical aspects of the WLCG, and the ability to facilitate consensus among diverse stakeholders. They are ex-officio members of the MB.

The TCB shall consist of technical representatives from the WLCG experiments (ATLAS, CMS, ALICE, LHCb and associated partners), computing infrastructure providers (including computing centers, developers, workflow and data management system experts, and industry partners), and other relevant stakeholders as deemed necessary. The composition should ensure broad representation across different regions and expertise areas relevant to the technical challenges of the WLCG. Other experts could be invited as needed. The TCB may establish technical working groups, projects, or task forces as deemed necessary.

Proposals within the TCB shall be developed through discussions and consensus among its members, with the Technical Coordinators facilitating the process and ensuring that all viewpoints are considered.

Reporting

The TCB shall provide regular updates and reports on its activities, progress, and recommendations to the WLCG Management Board and relevant stakeholders as well as contributing input to the WLCG reports to the RRB. Reports should include updates on the gap analysis, technical roadmap, prioritized initiatives, and any challenges or opportunities identified.

Duration

The TCB shall be established for the duration of the planning and execution phases of the technical roadmap for HL-LHC. The duration may be extended or adjusted as deemed necessary by the WLCG Management Board based on evolving needs and priorities.

Conclusion

The Technical Coordination Board (TCB) plays a crucial role in coordinating technical efforts and ensuring the effective utilization of computing resources to support the scientific goals of the LHC experiments. Through collaboration, strategic planning, and prioritization, the TCB aims to address technical challenges and facilitate the successful execution of the LHC program in the medium and long term.