Towards a Specialized Support Centre for High Energy Physics – a HEP SSC

Executive Summary

We propose a support unit focusing on the needs of the largest user community of the current EGEE infrastructure (as part of the Worldwide LHC Computing Grid – WLCG). This unit would be integrated into an existing structure at CERN, possibly complemented by a small number of similar teams at other centres of gravity, should the mandate of the support unit extend beyond High Energy Physics (HEP). Matching funding from CERN and/or HEP institutes and experiments is foreseen.

Overview

It is proposed that a support centre focusing on the needs of the international High Energy Physics community be established in the context of the European Grid Initiative (EGI). The primary purpose of this support unit would be to maximize the return on investment of European countries not only in grid infrastructure but also the scientific and cultural value of research and discovery at the Large Hadron Collider (LHC) at CERN and at other HEP centres around the world. For small incremental cost, the mandate of this support unit could be extended to support related disciplines – such as those that use the same toolset(s) or have similar computing models, as well as closely related scientific disciplines, like experimental astro-particle physics. The support centre(s) would be located at strategic centres of gravity for the supported community/ies – for example at CERN for the LHC and HEP communities in general. In the latter case the user community consists of some 10,000 researchers worldwide, together with additional support staff and technicians. The size of the support unit for which we will seek funding is of the order of 1 part per mil of the corresponding user base. It is foreseen that it would be part of a larger existing team that performs similar work but that has so far focused on the integration of grid technology with the experiments' software systems but should now shift priority towards the running phase of the LHC, expected to commence later in 2009.

Convinced of the need for such a support centre, steps are being taken to attract temporary staff so that a small core team would be in place by the time that additional funding might be available. This means that not only can the current requirements of the experiments working on the LHC be addressed but also that the new team members would be rapidly assimilated into an experienced team. As is the case today, the structure in which it is foreseen that this team be incorporated – the Grid support group in CERN's IT department – would be available for outreach, consultancy and training functions and would also be an ideal partner for future grid-based projects.

In conjunction with other teams at CERN and at collaborating institutes, the Grid support group has given significant value and direction to today's grid exploitation, providing tools and assistance ranging from experiment production to analysis, as well as site monitoring and grid operations. It is the group in which the WLCG Service Coordination team is centred, which coordinates the daily operation of the WLCG grid services.