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## Approaches to Manage Computational Cluster Resources

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Managing a computational cluster is a complex task which involves many aspects from generic hardware settings to improving the performances of a particular software application. But the complexity of this task is sometime underestimated: organizations just rely on a conventional approaches and systems. As a result cluster utilization could be inefficient. Mistakes (in terms of performance) made during system integration could be imposed by used approach. That is why the choice of a correct approach to system management is very important in many cases (especially in case of nonstandard hybrid complexes).

This article reflects the current situation in cluster management, describes the up-to-date approaches used to solve the mentioned problems, analyze the advantages and disadvantages of particular implementations and propose a convenient way to manage clusters.

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Computational clusters, PBS, Virtualization, Grid, Single system image, Cloud.

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