



Contribution ID: 75

Type: **not specified**

## Cloud Technologies in High-Energy Physics Data Processing

In the last decade, cloud computing has overtaken grid computing as a paradigm of distributed data storage and processing systems at the largest scales. The top commercial cloud providers today operate distributed systems at a significantly larger scale than even the biggest high-energy physics (HEP) collaborations. Some of the cloud computing innovations (such as object storage, infrastructure-as-a-service, or NoSQL databases) have been successfully adopted by HEP in preparation for upcoming data sets at the exabyte scale. Other innovations, such as the Hadoop data analytics system, are not easily applicable to HEP data sets, which might come as a surprise. An exciting field of current research is focused on how the needs of scientific data processing workflows differ from industrial needs, and how we can ensure that our academic distributed systems stay at the technology forefront.

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