GridKa School 2013: Big Data, Clouds and Grids

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Cloud Computing: Expanding Humanity's Limits to Planet Mars

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As another tool that Humanity has used for expanding its limits, cloud computing was born and evolved in consonance with the different challenges where it has been applied.

Due to its seamless provision of resources, dynamism and elasticity, this paradigm has been brought into the spotlight by the Space scientific community and in particular that devoted to the exploration of Planet Mars. This is the case of Space Agencies in need of great amounts of on demand computing resources and with a budget to take care of.

The Red Planet represents the next limit to be reached by Humanity, attracting the attention of many countries as a destination for the next generation manned spaceflights. However, there is still much research to do on Planet Mars and many computational needs to fulfill.

This talk will review the cloud computing approach by NASA and then it will focus on the Mars MetNet Mission, with which the speaker is actively collaborating. This Mission is being put together by Finland, Russia and Spain, and aims to deploy several tens of weather stations on the Martian surface. The Atmospheric Science research is a crucial area in the exploration of the Red Planet and represents a great opportunity for harnessing and improving current computing tools, and establish interesting collaborations between countries.

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