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GuangMu Cloud: An Example of Data-centric and Converging infrastructure

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CASEarth is a strategic priority research program of the Chinese Academy of Sciences (CAS), it's designed to achieve substantial breakthroughs for Big Earth Data, which is an important subset of big data dealing with sciences of atmosphere, land, and oceans. CASEarth is becoming a new frontier contributing to the advancement of Earth science and significant scientific discoveries.

GuangMu Cloud is designed to support CASEarth, including all the requirements from data collecting to data sharing, from fast data processing to large-scale parallel computing, and also from traditional big data tools to lastest AI frameworks. GuangMu Cloud is born to be an HPC, Bigdata and AI converging infrastructure.

This presentation will include some details, such as difficulties and trade-offs, about how to design GuangMu Cloud to support 10K cores MPI jobs and 10K VMs, with the capability of 2PF and 50PB.

[1] GUO Huadong (2019) CASEarth: A Big Earth Data Engineering Program, Keynotes CODATA 2019, Beijing

[2] Xuebin CHI (2019) Building Infrastructure for Big Earth Data and Cloud Services, International Symposium on Grids & Clouds 2019 (ISGC 2019), Taipei

[3] Huadong Guo (2017) Big Earth data: A new frontier in Earth and information sciences, Big Earth Data, 1:1-2, 4-20, DOI: 10.1080/20964471.2017.1403062

Summary

This presentation will include some details, such as difficulties and trade-offs, about how to design GuangMu Cloud to support 10K cores MPI jobs and 10K VMs, with the capability of 2PF and 50PB.

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