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CSTCloud: A Cloud Computing Platform Designed for Scientific Researcher

Many cloud enterprises appear in recent years such as Aliyun, Jinshanyun. While these cloud enterprises mainly serve to business companies. Their cloud resources and software services may not satisfy the need of some scientists and researchers. In order to especially support scientists and researchers to use and manage various kinds of scientific and technological resources and services consistently, transparently and on myself, we develop a cloud platform exclusively for scientists and researchers based on our superiority on distributed computing, distributed storage, big data analysis, information services, software defined networks and so on. The platform shall have following features: (1) The platform deeply integrates public and exclusive base information resources inside. In addition, it also joints the resources outside so that various kinds of information resources such as network, data, cloud computing, high performance computing and storage can be integrated to improve resource utilization and sharing level. Then the scientists and researchers can obtain rich information resources and service environment. (2) All these information resources are loosely coupled so that they can join and quit the cloud platform dynamically. Researchers can use local resources preferentially as well as share their idle resources to the platform so that all the kinds of resources can be managed uniformly and scheduled dynamically. (3) As the resources are distributed, heterogeneous and dynamical, the relative services and applications are diverse and the management need are different, we develop integrative and distributed monitoring system which can uniformly manage and schedule information resources and provide support to multi-layered resources sharing on demand and coordination on self. (4) We shall provide diverse toolkits in the platform so as to provide more stable and mature IT services for users.In a word, we will build an safe and reliable resource integrated system which is oriented for various application needs and which can support resource sharing on demand and schedule dynamically.

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