

Hyper Kylin Project Overview

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As virtualization and container technologies become increasingly widespread, cloud users often face the challenge of building their own virtual clusters with user-friendly interfaces to manage virtual resources and utilize public cloud resources. To address these issues, the Hybrid Cloud Team at the National Center for High-performance Computing (NCHC) in Taiwan has developed and provided services through Hyper Kylin, a hybrid cloud platform. As shown in Fig. 1, Hyper Kylin takes the advantages of the National Center for High-performance Computing iService account authentication to provide account management. Users verify their identity through iService and then login to the User Portal to use cloud services. Hyper Kylin provides a self-service mode, allowing end-users to provision virtual machines, storage, network, and Kubernetes services (Kubernetes as a Service, KaaS) as resources. These self-service offerings collectively form a Platform as a Service (PaaS) environment. Furthermore, Hyper Kylin also includes monitoring and alarm mechanisms, resource usage of each user can be monitored and recorded. Once abnormal detection is triggered by the pre-defined threshold, an alarm will be sent to the administrator for immediate system service inspection and repair. This approach will result in effective cloud platform management. With the Hyper Kylin Cloud platform, cloud users can effortlessly customize and configure a specific virtual environment and even access additional computing resources in the public cloud (e.g., AWS) when needed, as shown in the following figures (Fig.2 and Fig.3).

National Center for High-performance Computing

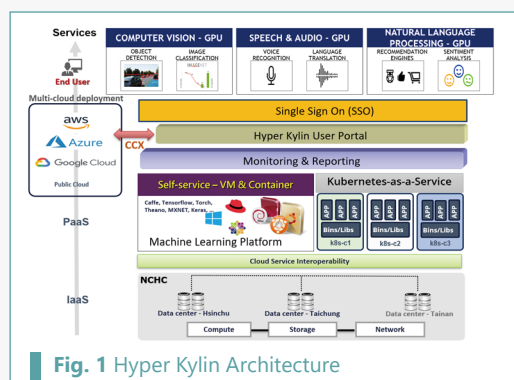


Fig. 1 Hyper Kylin Architecture

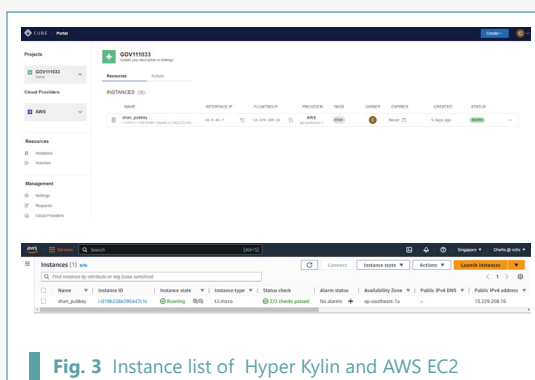


Fig. 3 Instance list of Hyper Kylin and AWS EC2

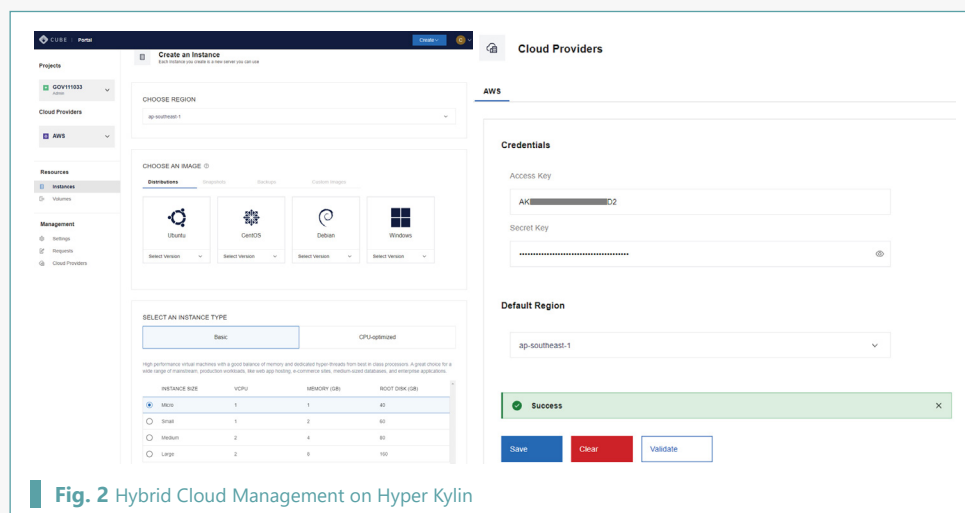


Fig. 2 Hybrid Cloud Management on Hyper Kylin