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Challenges and technologies in cloud resource operation in Huawei Public Cloud

Cloud service must meet customer's requirements for diversified scenarios, timely service provisioning and elastic scaling. However, the infrastructure on which cloud service depends requires a long construction period and a large investment. It is of great value to make accurate and reasonable resource supply plans through demand forecast technique. There are several challenges here. Customer requirements are often represented by sudden, diverse and dynamic resource usage patterns. In addition, resource operation policies need to consider complex factors, including managing geographical objects such as AZs and regions and resource objects in different life cycles. These complex factors lead to poor regularity and unpredictable capacity trends of cloud resources. We discuss forecasting methods and practices in resource operations in Huawei Public Cloud. The topics involve forecasting models such as machine learning and neural networks models. Practice show that the good forecasting techniques need not only appropriate forecasting models, but also reasonable mechanisms, including process, feedback and decision interaction.