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**Information technology - Cloud computing - General
requirements of HPC in cloud**

信息技术 云计算 云超算通用要求

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Table of Contents

Preface	III
Introduction	IV
1 Scope	1
2 Normative references	1
3 Terms and Definitions	1
4 Abbreviations	2
5 Cloud Supercomputing Reference Architecture	2
6 Basic resource requirements	3
6.1 Calculation	3
6.2 Storage	3
6.3 Network	4
7 Resource Management Requirements	4
7.1 Computing Resource Management	4
7.2 Storage Resource Management	4
7.3 Network Resource Management	4
8 Data Management Requirements	5
8.1 Transmission Management	5
8.2 Data backup and storage	5
9 Runtime Software Stack Requirements	5
10 Job Management and Scheduling Requirements	5
10.1 Editing and submitting assignments	5
10.2 Parallel Job Scheduling	6
10.3 Job Elastic Scaling	6
10.4 Job Workflow Orchestration	6
11 Visualization Requirements	6
11.1 Management Visualization	6
11.2 Performance Visualization	7
12 Operation and maintenance and monitoring requirements	7
13 Safety Requirements	7
14 API Requirements	7
References	9

Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents.

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Introduction

The large amount of data and high-speed computing requirements that computers cannot handle have been widely used in scientific research, simulation computing, engineering models, and film and television rendering. Widely used.

Cloud supercomputing is a new type of high-performance computing method that can solve the problems of poor scalability and high performance in traditional HPC.

Cloud supercomputing services are based on HPC clusters, cloud supercomputing SaaS value-added services and cloud supercomputing.

The new business ecosystem established by the PaaS commercial system uses cloud infrastructure to provide cloud service customers with elastic, scalable, multi-tenant high performance Computing services, which enable customers to quickly and easily build and manage HPC clusters using cloud supercomputing services and run computing-intensive workloads (HPC applications), and scale the required resources up and down based on the workload's needs.

This document standardizes the product capabilities and construction deployment of cloud supercomputing services, which will help promote the development of cloud supercomputing technology and ecological construction.

Information technology - Cloud computing - General requirements for cloud and supercomputing

1 Scope

This document provides a reference architecture for cloud supercomputing services and specifies the general requirements for cloud supercomputing.

This document is intended to provide reference for the design, planning, construction, deployment and operation of cloud supercomputing service products and to facilitate implementation by third-party organizations.

Provide a basis for cloud supercomputing service capability assessment.

2 Normative references

GB/T 32399-2015

GB/T 32400-2015

3 Terms and definitions

The terms and definitions defined in GB/T 32399-2015 and GB/T 32400-2015 and the following apply to this document.

3.1 [Source. ISO /IEC 21836 2020, 3.1.24]

Computing systems designed, operated, sold, and optimized for high-performance, deep learning, or artificial intelligence application requirements.

3.2 Cloud Supercomputing HPCincloud

Leverage cloud infrastructure to provide elastic, scalable, multi-tenant high-performance computing cloud services.

3.3 cluster

A group of independent computers that are interconnected by a high-speed network and managed as a single system.

3.4 Job

The process of using parallel computing methods to numerically solve pre-set input data and obtain calculation results.

3.5 cloud server

Servers that are configured according to user needs, enabling rapid provisioning and flexible deployment.

3.6 bare metal serverbaremetalserver

Physical servers used for cloud computing that feature elasticity, flexibility, and high performance.