

Alibaba Cloud Apsara Stack Agility SE

Glossary

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Document conventions

Style	Description	Example
	A danger notice indicates a situation that will cause major system changes , faults, physical injuries, and other adverse results.	 Danger: Resetting will result in the loss of user configuration data.
	A warning notice indicates a situation that may cause major system changes , faults, physical injuries, and other adverse results.	 Warning: Restarting will cause business interruption. About 10 minutes are required to restart an instance.
	A caution notice indicates warning information, supplementary instructions , and other content that the user must understand.	 Note: If the weight is set to 0, the server no longer receives new requests.
	A note indicates supplemental instructions, best practices, tips, and other content.	 Note: You can use Ctrl + A to select all files.
>	Closing angle brackets are used to indicate a multi-level menu cascade.	Click Settings > Network > Set network type .
Bold	Bold formatting is used for buttons, menus, page names, and other UI elements.	Click OK .
Courier font	Courier font is used for commands.	Run the <code>cd /d C:/window</code> command to enter the Windows system folder.
<i>Italic</i>	Italic formatting is used for parameters and variables.	<code>bae log list --instanceid Instance_ID</code>
[] or [a b]	This format is used for an optional value, where only one item can be selected.	<code>ipconfig [-all -t]</code>
{ } or {a b}	This format is used for a required value , where only one item can be selected.	<code>switch {active stand}</code>

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A

AccessKey

The AccessKey ID and AccessKey secret that are used in the identity authentication of visitors. The OSS service authenticates the request sender's identity through the symmetrical encryption method of AccessKey ID and AccessKey secret. The AccessKey ID labels the user, and the AccessKey secret encrypts the signed character string and is also the secret key of signed character string of OSS. Between AccessKey ID and AccessKey secret, the AccessKey secret must be encrypted.

AK

Address Resolution Protocol

ARP provides dynamic mapping of network addresses, such as IP addresses, to corresponding hardware addresses, such as MAC addresses.

ARP

administrator

The most advanced user who has the highest administration permissions to systems or businesses.

administrator right

A user with the privilege of unrestricted access to a system, including the ability to create, edit, or delete any folders or files and change system settings.

aggregate function

A function where the values of multiple rows are grouped together to form a single value of more significant meaning or measurement such as a set, a bag, or a list.

Alibaba Cloud

Alibaba Cloud, the cloud computing brand of Alibaba Group. The world-class outstanding provider of cloud computing technology and services. Established in 2009 with multiple R&D research centers and operation institutions in Hangzhou, Beijing, and Silicon Valley.

Alibaba Cloud engine

Alibaba Cloud engine is the web-based managed environment based on cloud computing infrastructure. It simplifies the building and operations of web-based applications with scalability function of application load balancing.

Alibaba Cloud platform

You are in charge of the integrity and confidentiality of the data, token, password related to your Alibaba Cloud products and services managed and trusted by Alibaba Cloud platform.

ADB for PostgreSQL

- ADB for PostgreSQL is a data warehousing service that provides online Massively Parallel Processing (MPP). ADB for PostgreSQL is developed based on the Greenplum Open Source Database program and is enhanced with some in-depth extensions by Alibaba Cloud. It supports features including the OSS external table, JSON data type, and HyperLogLog estimation analysis. ADB for PostgreSQL provides flexible hybrid analysis functions through query and anticipation of SQL2008 standard and OLAP analytic and aggregate function; it also supports the hybrid storage of row storage and column storage, data 2 Issue: 20200327 Glossary / Glossary compression technology to reduce the storage cost. ADB for PostgreSQL provides online scalability, backup, performance monitoring, and other services. Users do not have to manage complicated large-scale MPP clusters. ADB for PostgreSQL allows DBA, developers, and data analysts to focus on how to enhance productivity through SQL and create enterprise core values.
- ADB for PostgreSQL is one of the most advanced open-source database. As the ancestor of the academic relational database management system, ADB for PostgreSQL features by the complete implementation of the SQL rules and abundant support of data types , including JSON data, IP data, and geometric data. Most of these supported data types are not supported by most other commercial database. Except for functions like complete support of tasks, sub queries, multi-version control, data integrity check, ADB for PostgreSQL is integrated with key features like high availability and backup/restore to reduce the operation pressure. Current ADB for PostgreSQL also supports version 9.4.

API reference

Besides widely known as the Application Programming Interface, API also refers to the documentation of an API, or a help document that provides instructions of request parameters and request samples for developers to quickly understand and use it.

application hosting environment

The physical environment where application hosting services are offered from. Traditionally, organizations must build and maintain infrastructures to run applications locally. However, with software as a service (SaaS) model, businesses can use online hosted applications that enable them to reduce costs by paying by usage, enjoy seamless, easy upgrades, and easily integrate with other existing data and systems.

application migration to the cloud

A set of routine functions that an application uses to request and carry out lower-level services performed by a computer's or device's operating system. These routines usually carry out maintenance tasks such as managing files and displaying information.

Application Programming Interface

A hyper-scale and universal computing operating system that is independently developed by Alibaba Cloud and provides services for the world. It can connect millions of servers all around the world to form a supercomputer and provide computing capabilities for the community in the form of online public services. From the PC-based Internet to the mobile Internet and Internet of Everything, the Internet has become a new infrastructure in the world. Apsara intends to resolve the scaling, efficiency, and security problems in human computation. Apsara revolutionizes the three aspects of cloud computing to provide powerful, universal, and beneficial computing capabilities to everyone.

API

Apsara

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Apsara Distributed File System

Apsara Distributed File System is the file system component in the Apsara system. It connects the disks of the PC servers with no high availability as a whole to provide file storage capacity with stable and secure access.

Apsara Infrastructure Management Framework

Apsara Infrastructure Management Framework is a set of automatic management system for data centers, hardware lifecycle of management data centers, and various static resources (such as program, configuration, system image, data, and etc.). Apsara Infrastructure Management Framework provides a set of solutions such as version control, deployment, and hot upgrade for Apsara products and other Alibaba applications, which improves the automatic operation effects in the large-scale environment. It enhances the operation efficiency and system availability.

Apsara Name Service and Distributed Lock Synchronization System

The distributed coordination service (Apsara Name Service and Distributed Lock Synchronization System), similar to Paxos protocol, consists of multiple servers and similar file system to store data, provides user request capacity for users in need of high availability and high concurrency. As one of the significant basic components, it provides services related to distribution and consistency in the Apsara system. Compared to traditional products of the same kind, it allows high performance and supports horizontal expansion. The field counterparts are many, such as Zookeeper.

Apsara Stack

A proprietary, dedicated enterprise cloud platform that allows enterprises to improve utilization of their existing on-premises data center as well as install innovative services in security, and meet requirements in data sovereignty and compliance.

ApsaraDB for RDS

A stable, reliable, and elastically scalable online database service. Based on Apsara distributed system and high-performance storage, ApsaraDB for RDS supports the MySQL engine. It provides a complete set of solutions for disaster recovery, backup, recovery, monitoring, and migration to free you from worries about database O&M.

RDS

atomicity

Where transactions are an indivisible and irreducible series of database operations so that either all operations occur, or none occur. A guarantee of atomicity prevents updates to the database occurring only partially, which can cause greater problems than rejecting the whole series outright.

Aurora

The HA (high-availability) management system of ApsaraDB for RDS. It checks the status of the master database every three seconds. When it detects that the master database is down, it switches the SQL requests of users to the slave database quickly.

authentication

A group of processes where the confidence for user identities is established and presented via electronic methods to an information system.

authorization

A process in which permissions required to perform a certain job are granted to the related personnel. It is the key to organization operations.

automatic snapshot policy

A rule that defines when the automatic snapshots are taken and how long they are retained.

average response time

The process of backing up, refers to the copying into an archive file of computer data that is already in secondary storage—so that it may be used to restore the original after a data loss event. Backup process has two distinctive purposes. The primary purpose is to recover data after its loss, be it by data deletion or corruption. The secondary purpose is to recover data from an earlier time, according to a user-defined data retention policy, typically configured within a backup application for how long copies of data are required. Since a backup system contains at least one copy of all data considered worth saving, the data storage requirements can be significant. Organizing this storage space and managing the backup process can be a complicated undertaking. A data repository model may be used to provide structure to the storage. Nowadays, there are different types of data storage devices that are useful for creating backups. There are also multiple ways in which these devices can be arranged to provide geographic redundancy, data security, and portability.

B

back-end server

A set of cloud servers that accept load-balanced distribution requests. Server Load Balancer forwards access requests to this set of servers based on the rules you set.

backup

The process of backing up, refers to the copying into an archive file of computer data that is already in secondary storage, so that it may be used to restore the original after a data loss event. The backup has two distinct purposes. The primary purpose is to recover data after its loss, be it by data deletion or corruption. The secondary purpose of backups is to recover data from an earlier time, according to a user-defined data retention policy, typically configured within a backup application for how long copies of data are required. Since a backup system contains at least one copy of all data considered worth saving, the data storage requirements can be significant. Organizing this storage space and managing the backup process can be a complicated undertaking. A data repository model may be used to provide structure to the storage. Nowadays, there are many different types of data storage devices that are useful for making backups. There are also many different ways in which these devices can be arranged to provide geographic redundancy, data security, and portability.

backup system

The backup system takes charge of store a second copy of ally the database instance in the cluster, and store them in an integrated place.

basic cloud disk

Disks installed on the cloud server to support low I/O loads. It provides Elastic Compute Service (ECS) instances with the I/O performance of hundreds of IOPS.

block storage

A low-latency, persistent, high-reliability, and random block-level data storage provided for Elastic Compute Service (ECS) by Alibaba Cloud. It supports automatically copying your data in a zone, which avoids data unavailability caused by unexpected hardware faults and protects your Issue: 20200327 9 Glossary / Glossary business against the risk of component faults. Similar to a disk, you can format, create a file system, and persistently store the data on the block storage mounted to an ECS instance.

bridging

A computer networking device that creates a single aggregate network from multiple communication networks or network segments. This function is called network bridging. In the OSI model, bridging is performed in the data link layer (layer 2). If one or more segments of the bridged network are wireless, the device is known as a wireless bridge.

broadcast

The action of transmitting a packet that will be received by every device on the network.

broadcast table

These tables do not divide any data across data partitions. Each data partition has a copy of the data. Updates to the data are delivered to all partitions. It is usually only used for small data and must be included in the join table.

bucket

A unit that is used to manage stored objects. Objects must belong to a specific bucket.

buffer pool

A cache of existing database connections. It allows applications to reuse database connections that already exist in the pool, and reduces repeated attempts to create new database connections. This technology can improve system performance and avoid the overhead of building a new connection.

Business Foundation System

Business Foundation System is the logic layer of the Alibaba Cloud product. It maintains the relation between cloud product instance and users, the relation between instances and logic cloud concept such as region/zone, buffer of the front-end request and mitigates the back-end pressure.

byte hit rate

The probability that a requested number of bytes hits the cache within a specified period.

C

canonicalized query string

A query string that has been converted into a "standard", "normal", or canonical form by concatenating the (=) sign with the ampersand sign (&) and parameter names in lexicographic order.

capacity bottleneck

Capacity bottleneck refers to the service barrier as the data volume and visit counts to the standalone database increases.

capacity planning

A complicated and continuous performance study on resource consumption of softwares and hardwares in an existing system. Performance stress testing becomes a daily routine. Users in charge of applications can easily view application performance metrics and perform precise capacity planning for applications based on those metrics and the current system operating water level.

certificate

Certificates are used in HTTPS. After uploading a certificate to a Server Load Balancer, users can bind the certificate during HTTPS listener creation to provide HTTPS service. Certificates include both server-side and client-side certificates.

character encoding

Computing actions that represent a repertoire of characters by some kind of encoding system. Depending on the abstraction level and context, corresponding code points and the resulting code space may be regarded as bit patterns, octets, natural numbers, and electrical pulses. ASCII is an example.

classic network

The Alibaba Cloud products of classic network are centrally deployed in the Alibaba Cloud infrastructure network. Alibaba Cloud plans and manages the network and is more suitable for customers that require more network feasibility.

classified protection (of information security)

An important aspect of information security and risk management is recognizing the value of information and defining appropriate procedures and protection requirements for the information. Apsara Stack service provides security protection to the customer information system through international and domestic certification of trusted cloud, classified protection, management system of information security, and cloud security.

Classless Inter-Domain Routing

A method used to assign IP addresses to users and efficiently route IP packets on the Internet to classify the IP addresses.

CIDR

client

A program that establishes connections to send requests.

cloud compute

The mode that supplies and manages the shared physical and virtual resources in a self-help method through the network.

cloud computing ecosphere

The cloud computing ecosphere builds the cloud computing ecosphere for partners to create synergy.

cloud disk

An independent disk that can be mounted to any Elastic Compute Service (ECS) instance in the same region and zone. It can be classified into three types based on the performance: Ultra cloud disks, SSD cloud disks, and basic cloud disks.

cloud instance

Cloud instances share one set of management system in the cloud platform. Generally speaking a cloud instance is divided into multiple regions according to its geographic site. One region is consisted of multiple AZones. In Apsara Stack one AZone physically corresponds one on-premises data center.

cloud security

Cloud security is the overall concept of hardware, user, institution, and secure cloud platform based on the commercial mode of cloud computing application.

CloudMonitor

A centralized monitoring platform for Alibaba operation engineers and developers, which monitors the devices, networks, databases, application clusters, and core services of Alibaba Group.

command line

A command that runs in DOS.

connection mode

A mode that defines the transmission path of data packages for ApsaraDB RDS instances.

Performance is the standard connection mode. Safety is the high security connection mode.

console

A graphical user interface for products that lets you perform common operations.

cookie

Data (usually encrypted) that websites store on your local terminal for identity identification and session tracking.

CPU Usage

The amount of time for which a central processing unit (CPU) uses to process instructions of a computer program or operating system.

creating

The running status of a software or system. It indicates the software or system is being created.

cross-site Scripting

A type of computer security vulnerability typically found in web applications. XSS enables attackers to inject client-side scripts into web pages viewed by other users. A cross-site scripting vulnerability may be used by attackers to bypass access controls such as the same-origin policy

xss

custom image

Created by using snapshots. The created image can be used to create an Elastic Compute Service (ECS) instance.

cyber storm

A situation where messages broadcast on a network cause multiple hosts to respond simultaneously, and this consumes enough network resources to prevent normal traffic on the network.

D

data center

A large group of resources (including regions and zones) used by Alibaba Cloud.

IDC

data cleansing

A disk (hard disk) that is installed on the device board where other disks are located. Do not insert, remove, or move the disk without permission. Generally, the disk includes the partition where the computer operating system resides and other partitions.

data compression

A technique that uses algorithms to reorganize data, reduce redundant data, and save storage space without loss of valid data. It can improve the data transmission, storage, and processing efficiency.

data consumed timestamp

A timestamp that records the last time subscription data was consumed by the downstream SDK. The SDK sends an ACK packet to the DTS server for each piece of consumed data. The DTS server updates and saves the respective timestamp. When the SDK restarts unexpectedly, the DTS server automatically pushes subscription data based on the latest timestamp.

data disk

A disk that contains only data, excluding the operating system.

data disk mounting

In Windows server system user accesses the disk data through SATA or SAS interface. In Linux system, the disk data is not available for direct access. It requires to perform mounting action to access the data.

data introduction

Data Introduction migrates data from one system to another system in batch. The migrated data includes structure, data, definition, and etc.

data migration to the cloud

Migration of data from traditional architectures to the cloud.

data replication center

The infrastructure for realtime synchronization of the heterogeneous database.

Data Replication System for MySQL

Data Replication System for MySQL refers to the middleware for Alibaba Cloud database synchronization. Through the MetaQ message it senses the change of database binlog and replicates the database.

data scope

The scope of the timestamp for the incremental data stored in the prescription channel. The time stamp of the incremental data corresponds to the time stamp when the piece of incremental data is applied and recorded by event log in the ApsaraDB for RDS instance. By default the prescription channel only stores the incremental data of one day. The data transmission service cleans the incremental data regularly, and update the data scope of prescription channel.

data sharding

The means of database partitioning that separates very large databases into smaller, more easily manageable parts called data shards.

data traffic

The amount of data moving across a network at a given point of time. Traffic in computer networks is mostly data encapsulated in network packets, which provide the load in the network.

Data Transmission Service

A service that helps migrate data between different data sources such as relational databases, NoSQL, and OLAP. DTS integrates data migration, data subscription, and real-time data synchronization. It provides millisecond-level long-distance asynchronous data transmission in public cloud and hybrid cloud scenarios. Its underlying data stream uses the remote active-active infrastructure used for Double 11. The infrastructure has provided stable real-time data streaming for thousands of downstream applications for three years. You can use DTS to easily create secure, scalable, and highly available data architecture.

DTS

data update

A type of database update. Data updates only modify data. They do not modify the schema.

database engine

The core service used to store, process, and protect data. It provides controlled access and rapid transaction processing to meet the requirements of enterprise applications that process massive

data. It can be used to create relational databases that process transactions and data analysis online. This includes the creation of tables that store data and database objects that are used to view, manage, and guarantee data security (such as indexes, views, and storage procedures).

dataset indicator

A Solid-State Disk (SSD) that is installed on the device board where other disks are located.

Unlike the basic cloud disk, data is not triplicated but the Redundant Array of Independent Disks (RAID) technology is used. Therefore, you cannot avoid the data loss if a single physical machine is down.

debugger

A computer program or tool that is used to debug other programs. The code to be examined can be alternatively run on an instruction set simulator (ISS) to check the running status and 20 Issue: 20200327 Glossary / Glossary troubleshoot errors. This technology is useful when development is bottlenecked or problems cannot be located.

decoupling

A process that converts mathematical equations with multiple variables to an equation group with a single variable. This simplifies analytic calculation as the result of the equation is not directly affected by multiple variables. A multi-variable system can be converted to multiple independent single-variable systems by controlled variable selection and coordinate transformation, which means decoupling variables.

deployment set

Capabilities provided by Elastic Compute Service (ECS) that allow you to detect the physical topology of the host, rack, and switch and select a deployment policy that meets the business Issue: 20200327 21 Glossary / Glossary requirements according to your business type to improve the overall reliability or performance of your business.

Destination Network Address Translation

The action of translating the destination address of an IP packet to another address.

DNAT

Diamond

The distributed configuration center. It provides realtime posting service.

digital city

The transformation of cities and urban areas through the use of modern technologies to provide novel and interactive city-wide services for governments, citizens, and business. It may also be referred to as a 'smart city'.

disk array

A data storage system designed to clear off the Single Points Of Failure (SPOF). Disk array components are generally hot-swappable.

distributed

A mode in which different services are distributed on different areas and devices, and each node performs a specific task.

Distributed Denial of Service (DDoS) attack

A type of DoS attack in which an attacker makes a target network unavailable by overwhelming it with valid requests from multiple sources. Types of DDoS attacks are listed as follows: attacks that interrupt or even prevent normal network communications by overloading networks; attacks that overload servers by sending a large number of requests to the servers; attacks that prevent an authorized user from accessing a server; attacks that prevent a service from communicating with a specific system or user.

DDoS

Distributed File System

A client/server-based application that allows clients to access and process data stored on the server as if it were on their own computer. When a user accesses a file on the server, the server sends the user a copy of the file, which is cached on the user's computer while the data is being processed and is then returned to the server.

distributed index

The use of a distributed indexing algorithm to construct indexes that are partitioned across several machines.

Cloud Native Distributed Database PolarDB-X

Cloud Native Distributed Database PolarDB-X is a lightweight, flexible, stable, and efficient middleware product developed by Alibaba Cloud. Cloud Native Distributed Database PolarDB-X focuses on expanding standalone relational databases, and has been tested by core transaction

links in Tmall, such as during the Singles' Day Shopping Festival. Cloud Native Distributed Database PolarDB-X has been used for ten years and is a trusted database service provider.

Distributed System Performance Monitor

Distributed System Performance Monitor is the system component to collect, monitor, and diagnose information. It deploys light-weighted information collection model on each physical machine to obtain the performance, operation status of the operating system and application software and monitors the cluster fault. Through the analysis of the Apsara operation status it evaluates the overall system.

distribution Key

A distribution key is a column (or group of columns) that is used to determine the database partition in which a particular row of data is stored.

domain Name

The name of a computer or a computer group on the Internet. It consists of several parts separated by periods (.) to identify the electronic location of the computer or computer group for data transfer.

down

The scenario that operation system cannot recover from a serious systematic mistake, with prolonged system response, therefore, the system has to be restarted.

downstream traffic

The number of bytes that are downloaded from the Internet.

E

ECS Bare Metal Instance

A new computing server product that combines the elasticity of virtual machines and the performance and features of physical machines, which is built based on the next-generation virtualization technology that is independently developed by Alibaba Cloud.

ECS Operations and Maintenance System

The operations and maintenance system of ECS.

ECS Server Controller

Resource scheduling system of ECS.

ECS/VPC Deployment System

The deployment tool for ECS and VPC.

Elastic Compute Service

An efficient cloud computing product that features elastic processing capabilities. It supports many operating systems, such as Linux and Windows.

ECS

Elastic Network Interface

Also known as secondary ENI. You can create a secondary ENI and attach/detach it to/from an instance. The ENI created by default when the Virtual Private Cloud (VPC) instance is created is a primary ENI. The lifecycle of the primary ENI is the same as that of the instance. You cannot detach the primary ENI from the instance.

ENI

endpoint

- The access domain name served by the OSS over the Internet or intranet.
- The connection URL that corresponds to an instance. You must specify an endpoint before you can perform any operations on tables and data.

The access domain name served by the OSS over the Internet or intranet.

error code

In order to locate the issue, establish the association between error type and error code. When error occurred in either hardware or software, report to administrator by display of error code.

Administrator locates the specific reason that lead to the software or hardware fault.

eviction policy

A policy used to eject infrequently used data. It is consistent with Redis eviction policy behaviors.

exclusive virtual host

Exclusive virtual host is the complete server resource with no fight for the resource, which makes it more stable, with no limit of traffic, which make it more speedy, with independent IP, which makes it easier to promote. It suits more for the enterprise website project.

existing data synchronization

Initialization of the historical data of the synchronization object to the target instance before the link incremental data is synchronized.

expansion partition

Expansion partition is achieved through split. When splitting, the ShardID in read/write status and one MD5 are required. The MD5 must be larger than the inclusiveBeginKey and less than the exclusiveEndKey.

F

firewall

A network security system used to separate intranets from public networks. It monitors and controls incoming and outgoing network traffic based on predetermined security rules.

forward compatibility

A design characteristic that allows earlier versions to support data generated by later versions.

forwarding weight

The weight for traffic forwarding that you can specify for each Elastic Compute Service (ECS) instance in the back-end server pool according to the external service capabilities and situations of the back-end ECS instance. The higher the weight is, the more access requests are assigned to the ECS instance.

FPGA cloud server

FPGA cloud server provides computing instance with FPGA function. Based on Alibaba elastic computing framework, user can create FPGA instance within minutes, and create self defined hardware accelerator.

fragmented storage

Splits files into multiple fragments and multiple copies across multiple storage disks.

FreeBSD image

An Elastic Compute Service (ECS) instance environment based on the FreeBSD operating system. Currently, the supported versions include 10.1 (64 bit).

full backup

The process of backing up all data or applications at a time point.

full data migration

A type of migration task. It refers to the migration of all data except Data Definition Language (DDL) from the source instance database to the target instance. If you select only full data migration but not incremental data migration when you create a migration task, the data newly added to the source instance will not be migrated to the target instance during the migration process.

full migration

A mode of data migration. Within the specified period, all data is migrated from the source system to the target system in a way data consistency is guaranteed.

full snapshot

The first created snapshot of a disk that saves all the disk data.

full table scan

An action in database sharding mode where PolarDB-X executes an SQL statement on all sub-tables and then merges the results if the SQL statement does not contain the shard key. We recommend that you do not perform this action because it negatively affects database performance.

function compute

An event-driven serverless computing service. Users only need to write and upload the code without the need to manage infrastructure such as hosts. Function Compute prepares the computing resources for you and runs your code in an elastic and reliable manner.

G

geo-disaster recovery

Geo-disaster recovery involves a set of policies, tools and procedures to enable the recovery or continuation of vital technology infrastructure and systems following a natural or human-induced disaster. A geo-disaster recovery location produces backups on a regular basis. Backups can be made to an on-premise, internal backup server, or to a cloud based service.

glitch

A short-lived fault in a system, such as a transient fault that corrects itself, making it difficult to troubleshoot.

globally unique ID

A globally unique numerical ID. It helps keep data such as unique keys and primary keys globally unique in a distributed environment.

GUID

GPU cloud server

GPU cloud server is based on the computing service of GPU application. It is used in application scenarios such as video resolution, graphics rendering, deep learning, scientific computing, and etc. This product features by real time high speed computation with floating point computing ability.

group ID

Group ID identifies logically shared nodes that represent classes of devices with identical functions.

H

hash

Function that can be used to map data of arbitrary size onto data of a fixed size. The values returned by a hash function are called hash values, hash codes, digests, or simply hashes. Hash functions are often used in combination with a hash table, a common data structure used in computer software for rapid data lookup. Hash functions accelerate table or database lookup by detecting duplicated records in a large file.

health check

A basic function of Server Load Balancer, which is used to check the business availability of the back-end servers (Elastic Compute Service (ECS) instances), improve the overall availability of the front-end business, and avoid the effect on the overall services caused by the abnormal back-end ECS instances.

heartbeat

A periodic signal generated to indicate normal operations. It is usually sent between machines at regular intervals.

High Availability

A characteristic of system and application durability in which downtime for users due to regular maintenance operations (planned) and sudden system crashes (unplanned) is minimized. A highly available system is likely to operate continuously without failure for a desirably long time.

HA

high concurrency

A factor that must be considered in the distributed system architecture design of Internet. It uses a method to make sure that the system can handle large numbers of requests concurrently.

high-availability control system

Responsible for monitoring system health and real-time handovers between all database instances to ensure high availability (up to 99.99%).

High-Availability Virtual IP Address

Responsible for monitoring system health and real-time handovers between all database instances to ensure high availability (up to 99.99%).

HAVIP

highly available cluster

A server cluster technology that reduces service interruptions. It protects your business programs to provide uninterrupted services and minimizes the impact caused by softwares, hardware, or human errors.

high-performance cluster instance

A collection of high performance instances that can connect to a single database.

high-performance instance

High-performance instance is the instance with high read/write performance.

High-performance Service Framework

A distributed service framework for enterprise Internet architectures. It is based on a higher performance network communication framework and provides various proven features such as publication, registration, call, routing, authentication, rate limiting and throttling, degradation, and call chain tracking of services.

HSF

High-Speed Service Framework

A distributed service framework for enterprise. It is based on a high-performance network communication framework and provides service registration, publication, invocation, routing, and other related features.

host intrusion detection

Apsara Stack Security performs security analysis on the host log records, and detects and reports aggressive behavior in real time, such as system password cracking and logons from abnormal IP addresses.

host intrusion prevent system

A method that Alibaba Cloud Security uses to perform security analysis on the host logs, detect and report the aggressive behaviors in real time, such as system password cracking and logons from abnormal IP addresses.

HyperText Transfer Protocol

A universal, stateless, and application-oriented protocol for distributed, collaborative, and hypermedia information systems.

HTTP

I

Idempotence

It describes an operation that produces the same results no matter how many times a client makes it. Note that while idempotent operations produce the same result on the server (no side effects), the response itself may not be the same (for example, a resource's state may change between requests).

identity credential

Authentication you must provide when you log on to a user account. For example, a password, AccessKey, or an MFA code.

image

The environment template of ECS instances, which contains the operating system and preinstalled softwares. Image types include public images, custom images, shared imaged, and

image market. Images are used to create new ECS instances or change the system disks of ECS instances.

Image Processing

An extended service of Object Storage Service (OSS). It is built on OSS and provides real-time image processing functions, such as resizing, cropping, reformatting, and adding watermarks to images. You must enable image processing in the OSS console first, and then call the RESTful interface provided by the image processing service to process the images stored on OSS, and obtain the processed images immediately.

IMG

image sharing

The action that allows you to share your custom image with other Alibaba Cloud accounts. Then, these accounts can use the shared custom image to create instances and change the system disk.

imported database

A database that is created in the MySQL instance and mounted to PolarDB-X.

inbound traffic

Traffic that comes inside towards the server.

incremental backup

A type of backup that only copies files that have changed since the previous backup.

incremental data migration

A type of data migration. It synchronizes the incremental data from the source instance to the target instance during the migration process. If you select both full data migration and incremental data migration when you create a migration task, DTS first performs static snapshot on the source instance, migrates the snapshot data to the target instance, and then synchronizes the incremental data written to the source instance to the target instance during the migration process. Incremental data migration is a process of real-time data synchronization between the source and target instances. It does not end automatically. If you want to terminate the migration, terminate it manually on the console.

incremental migration

A type of data migration. It synchronizes part of data changes (addition, deletion, and modification) in a certain period from the source system to the target system to ensure data consistency. In some systems, transactional tables are locked during dynamic incremental migration, causing a data write failure during the migration. Exercise caution when using dynamic incremental migration.

Infrastructure as Code

The process where you can perform operations on Alibaba Cloud resources by using templates, APIs, and SDKs, similar to writing codes.

IaC

InnoDB buffer Pool

InnoDB keeps a buffer pool in its memory for data buffer and index. The buffer pool is divided into two sections, section of sublist of new blocks (frequently visited data-hot data), section of sublist of old blocks (infrequently visited data). When the user visits data and the data is available from buffer pool, it is returned directly, otherwise the disk data will be loaded to the buffer pool of sublist of old blocks section first and then move to the sublist of new blocks section. The data from sublist of old blocks section get flushed according to its access frequency through LRU.

Input/Output Operations Per Second

- The total number of Input/Output Operations Per Second (when performing a mix of read and write tests). An I/O performance measurement for computer storage devices is frequently mischaracterized as a benchmark, however, IOPS numbers do not relate to real-world application performance.
- The request counts for read/write the instance within one second. Also the maximum counts of read/write to the block device per second, in unit of 4KB.

IOPS

instance

An independent resource entity that contains basic resource elements.

instance type

The type of instance. Each instance provides customer with relevant computing ability according to certain specifications.

interface

A shared boundary across which two or more separate components of a computer system exchange information. The exchange can be between software, computer hardware, peripheral devices, humans and combinations of these.

Internet

Also known as WAN, wide area network, the global system of interconnected computer networks that use the Internet protocol suite (TCP/IP) to link devices worldwide. It is a network of networks that consists of private, public, academic, business, and government networks of local to global scope, linked by a broad array of electronic, wireless, and optical networking technologies. The Internet carries a vast range of information resources and services, such as the inter-linked hypertext documents and applications of the World Wide Web (WWW), electronic mail, telephony, and file sharing.

Internet Gateway

Internet Gateway, which provides access to the Internet.

IGW

Internet Protocol

The principal communications protocol in the Internet protocol suite for relaying datagrams across network boundaries. Its routing function enables networking, and essentially establishes the Internet.

IP

intranet

The network within an organization. It is usually a local area network (LAN). A LAN is a computer communication network that interconnects computers, external electronic devices, and databases within a limited geographical area. The LAN is connected to the databases, LANs, or processing centers in other regions by using data communication networks or dedicated data circuits, which forms an information processing system that covers a wide geographic area.

invocation method

The method to invoke the function, mainly in form of C, Pascal.

IO volume

The amount of data read and written from the database per second.

IP whitelist

The list of assigned IP addresses that can access PolarDB-X.

J

Job Scheduler

Distributed resource management and task scheduling system. The field counterparts are many, such as Kubernetes.

K

Keepalived

An open-source software that guarantees the high availability of clusters and detects the status of Web servers. If it detects that a Web server is down or has an error, the Web server is automatically removed from the system. The removed Web server is automatically added after resuming the normal work.

key pair

Public-key cryptography, or asymmetric cryptography, is a cryptographic system that uses pairs of keys: public keys which may be disseminated widely, and private keys which are known only to the owner. The generation of such keys depends on cryptographic algorithms based on mathematical problems to produce one-way functions. Effective security only requires keeping the private key private; the public key can be openly distributed without compromising security.

L

latency

The delay before a transfer of data begins following an instruction for its transfer.

Layer-4 Server Load Balancer

A service that uses the information defined at the network transport layer (layer 4) as the basis for deciding how to distribute client requests across a group of servers. For Internet traffic, it makes the load balancing policy based on the source and destination IP addresses and ports recorded in the packet header, without considering the contents of the packet.

Layer-7 Server Load Balancer

A service that provides load balancing for services at the application level, such as HTTP services. It determines the routing based on the characteristics of the HTTP header and the actual contents

of the message, such as the URL, data type (text, video, and graphics), and information in the cookie.

Linux Virtual Server

A cluster technology that supports the IP load balancing and content-based request distribution techniques.

LVS

listener

A concept used in Server Load Balancer instances. A listener defines how the incoming requests are distributed. You must add at least one listener to a Server Load Balancer instance. It includes front-end ports, back-end ports, Server Load Balancer policies, and health check configurations.

Each listener corresponds to a back-end application service.

live migration

Also known as realtime migration. It refers to the process of migrating a running VM or application between different hosts without disrupting its normal operation. Its logic migration procedure is almost the same as that of offline migration. The difference is that live migration results in a very short downtime to ensure that VM can provide services normally. During the early stage of migration, the services run on the source host. When the migration reaches a certain stage, the target host has the necessary resources to run the system. After a transient switchover, the source host takes services over from the target host, ensuring service continuity. For services, users are not aware of the service interruption because the switchover is transient. Live migration applies to scenarios that require high service availability.

locking

The locking mechanism of ApsaraDB for RDS. If the storage space of your instance is full, the system will lock your instance into the read-only status.

logical backup

The process of using SQL statements to extract data from databases and then saving it in binary files.

logical SQL

An SQL query sent from an application to PolarDB-X.

M

Manual Gateway

A user-created dedicated gateway.

MGW

mass storage

The storage of large amounts of data in a persisting fashion.

memory

Internal storage where the computing data in CPUs and the data exchanged with external storages, such as devices and hard disks, are temporarily stored.

merge sort

An efficient, general-purpose, comparison-based sorting algorithm.

message key

The business identifier of a message, which is set by the message producer and uniquely identifies a business logic.

metadata

Metadata, also known as data about data. It defines data properties.

multicast

Group communication where data transmission is addressed to a group of destination computers simultaneously and is often employed in IP applications of streaming media.

multipart upload

A method of uploading a large file by separating it into smaller parts.

Multi-Service Transmission Platform

A unified network management platform for multi-service nodes based on SDH, which supports access, processing, and transmission of TDM, ATM, Ethernet, and other services.

MSTP

multi-tenant isolation

A system where the OS or programs are shared by users, but user data is isolated.

multi-zone

An area composed of multiple zones, which is deployed in different regions by Alibaba Cloud Server Load Balancer to achieve disaster recovery across data centers in the same region. If the data center in the active zone malfunctions or becomes unavailable, Server Load Balancer rapidly switches to the data center in the standby zone to restore its service capabilities within 30s. When the active zone is restored, Server Load Balancer automatically switches back to the data center in the active zone to provide services.

multiple zones

An area composed of multiple zones, which is deployed in different regions by Alibaba Cloud Server Load Balancer to achieve disaster recovery across data centers in the same region. If the data center in the active zone malfunctions or becomes unavailable, Server Load Balancer rapidly switches to the data center in the standby zone to restore its service capabilities within 30s. When the active zone is restored, Server Load Balancer automatically switches back to the data center in the active zone to provide services.

N

network baseline

Network analysis is to analyze the network graph's position, activity, and relation from different aspects of algorithm, and then highlight the result nodes.

network device type group

Network device type group is the network device specifications verified and confirmed by Apsara Stack platform, including machine names, hardware configurations, and manufacturer models.

network latency

The objects that exist in the real world, such as human, cell phone number, car. The objects in the Graph Analytics instance require a unique object that is identified by the main key, such as the ID number of human, cell phone number of cell phone, plate number of a car.

network type

A secure, reliable, and cost-friendly cloud storage service provided by Apsara Stack to process a large amount of data. You can call APIs to upload or download data to or from any application anytime anywhere, and perform simple data management through the Web console. OSS can store files of any type from various websites, development-oriented enterprises, and developers.

non-sharding mode

Refers to the use of a database has been built in MySQL(RDS) as a PolarDB-X database. In this mode the library of PolarDB-X sub-table and other functions are not available, and only the PolarDB-X separate read/write functions are available.

number of active threads

The number of threads that PolarDB-X is running. It can be typically used to represent the current load of PolarDB-X.

O

Object Storage Service

A secure, reliable, and cost-friendly cloud storage service provided by Apsara Stack to process a large amount of data. You can call APIs to upload or download data to or from any application anytime anywhere, and perform simple data management through the Web console. OSS can store files of any type from various websites, development-oriented enterprises, and developers.

oss

open API

The management and control tool provided for customers to realize relevant resource management and operation.

open source

A certification mark registered by and an official definition given by the Open Source Initiative (OSI). Softwares that bear this mark are open source. An open source software can be used, modified, and released without license restrictions, and its source code is available for public use.

open source ecosystem building

Open source ecosystem building includes components like Hadoop, HBase, Spark, Hive, Pig, Swoop, Hue, and Zeppelin. It support monthly/annual payment and pay-as-you-go payment.

open source software

A type of computer software in which source code is released under a license in which the copyright holder grants users the rights to study, change, and distribute the software to anyone and for any purpose. Open source software may be developed in a collaborative public manner. Open source software is a prominent example of open collaboration.

Operating System

Operating System is the system software that manages the computing hardware and software resources.

os

operation log

Operation log is the record of all the operations, including the time and content of each operation.

OSS object

A basic unit for data storage in OSS. An object is a file in OSS. An object consists of the metadata (Object Meta), user data (data), and object name (key). Objects are identified by a key. The key is unique within the bucket.

outbound traffic

Traffic that goes outside from the server.

owner

The person responsible for setting and controlling the permissions of objects, and who can grant such permissions to other users.

P

packet loss

An event where one or more packets of data traveling across a computer network fail to reach their destination.

packet loss rate

The ratio of packets lost with respect to packets sent, generally measured as a percentage value.

page view

The view counts or click rate of defined pages. Each visit of the web page is recorded as one count.

peak bandwidth

The maximum permitted traffic burst that a site can sustain.

performance

The amount of useful work accomplished by a computer system. Outside of specific contexts, computer performance is estimated in terms of accuracy, efficiency and speed of executing computer program instructions.

persistent connection

A connection used to send multiple data packets continuously. During the connection, both parties must send link detection packets if no data packets are sent.

physical average response time

The average response time, in milliseconds, when Cloud Native Distributed Database PolarDB-X performs logical SQL queries during a cycle. The response time for an SQL query is calculated based on the formula: Response time for an SQL query = (The point in time recorded by Cloud Native Distributed Database PolarDB-X for the last package of the result set) - (The point in time at which Cloud Native Distributed Database PolarDB-X receives the SQL query).

physical backup

Dump of physical files, such as data files, control files, and archived logs. These files can be used to restore abnormal databases.

physical QPS

The number of physical SQL queries per second that Cloud Native Distributed Database PolarDB-X executes on ApsaraDB for RDS.

physical SQL

The SQL query that is sent to ApsaraDB for RDS after the ApsaraDB for RDS parses a logical SQL query.

PolarDB-X hint

A custom hint provided by Cloud Native Distributed Database PolarDB-X to specify certain actions. PolarDB-X hint uses relevant syntax to affect and optimize the way SQL statements are executed.

PolarDB-X instance

An instance that consists of several Cloud Native Distributed Database PolarDB-X servers. Multiple PolarDB-X databases can be stored in a PolarDB-X instance.

PolarDB-X instance ID

A unique ID that identifies a PolarDB-X instance.

PolarDB-X note

Custom comments provided by Cloud Native Distributed Database PolarDB-X to specify special behavior such as specific syntax that affects the way SQL is executed.

PolarDB-X sequence

A 64-bit number that corresponds to the BIGINT type in MySQL. It is used to generate a globally unique number sequence typically used to generate primary key columns and unique index columns.

PolarDB-X server

A core component of Cloud Native Distributed Database PolarDB-X. PolarDB-X servers parse, optimize, and route SQL statements as well as aggregate SQL statement execution results. PolarDB-X server nodes are stateless and provide the MySQL protocol-based services for external access.

PolarDB-X server count

The number of PolarDB-X servers in a PolarDB-X instance.

port

A port is an endpoint of communication in computer networking. This can be hardware port, a logical port, or both. TCP and UDP ports are identified by their port number (an integer from 0 to 65535).

port forwarding

A method provided by SSH for secure network communications. It forwards the behavior of a network port from one network node to another. It allows an external user to access a port of a private internal IP address from the external by passing an activated NAT router.

pre-check

A mandatory phase before the start of a migration task. It checks the preconditions that will affect the migration, such as connectivity of the source instance, the permissions of the migrating account, etc. If it fails, make the appropriate changes and try again.

pressure test

Pressure test is the test method that verifies the system stability. Normally the test covers scenarios that are out of normal condition to observe the function extremes and hidden risks.

private key

The unique identifier of each row in a table. It consists of one to four columns. When a table is created, the primary key must be defined. To define a primary key, make sure that the name and data type of each primary key column, and the fixed sequence of the primary key columns are available. The data types of primary key columns can only be String, Integer, and Binary. If the data type is String or Binary, the size of the column value cannot exceed 1 KB.

private network

The internal network used for VM instance connections.

private-read-write

An access control permission level for OSS buckets and objects. The access control permissions include public-read-write, public-read, and private. The private permission allows only the creator of the bucket to read and write objects in the bucket. Other users cannot access the objects in the bucket.

product baseline

The deployment meta data of Apsara Stack products. It contains a suite of software components and the standard mode for hardware compliance. The Apsara Stack team, including PD from various product line, R&D developers define the format of the product baseline and the Shuguang team verifies and finalizes the product baseline. Each Apsara Stack version corresponds to one suite of product baselines.

Product Introduction

Product Introduction is the key part of product documents and explains the product family to which the product belongs.

product summary

The overview and summary about what a product is, what it does, and how it works.

programming model

A style of programming where execution is invoked by making what appear to be library calls.

project

The project is the resource management unit in Log Service and is used to isolate and control resources. You can manage all the logs and the related log sources of an application by using projects. Projects manage the information of all your Logstores and the log collection machine configuration, and serve as the portals where you can access the Log Service resources.

project version

Project plans are not completed at once. After multiple solution comparison and involvement of different solutions, the final solution is sealed. Therefore, each project version relates to a set of independent plan and implementation solution. Each available version is named as backup and the version that customer selects is the finalized version.

proprietary intellectual property right

Ownership of intellectual property which may include financial information, intellectual property (concepts, designs, techniques), technical documentation, artwork, and the contents which are protected under law.

public address

A connection address to access a host on a public network. Public addresses are assigned by InterNIC and consist of class-based network IDs or blocks of CIDR-based addresses that are guaranteed to be globally unique to the Internet.

public parameter

Public parameter is the parameter that is required by each interface.

public request parameter

Request parameters used for all interfaces.

public return parameter

Each time you send an interface call request, the system returns a unique identification code (RequestId) regardless of whether the request is successful or not.

public-read

An access control permission level for OSS buckets and objects. The access control permissions include public-read-write, public-read, and private. Public-read allows only the creator of the bucket to write objects to the bucket. Anyone else (including anonymous users) can only read objects from the bucket.

public-read-write

An access control permission level for OSS buckets and objects. The access control permissions include public-read-write, public-read, and private. Anyone (including anonymous users) can read and write objects from the bucket. Any costs incurred by these operations are borne by the creator of the bucket. Exercise caution when using this permission.

push

A proactive action to send resources from the origin site to edge nodes. You can directly hit cache when accessing resources, which lightens the pressure of the origin site caused by bursts in the traffic back to the origin.

Q

Query Per Second

Query Per Second is a common measure of the amount of search traffic an information retrieval system, such as a search engine or a database, receives during one second.

QPS

R

rack

A physical steel and electronic framework that is designed to house servers, networking devices, cables and other data center computing equipment. This physical structure provides equipment placement and orchestration within a data center facility. It generally measures 42U in height.

RDS Operations and Maintenance System

The operations and maintenance system of ApsaraDB for RDS.

read policy

A policy that defines the ratio of read-only SQL statements sent by Cloud Native Distributed Database PolarDB-X between the primary instance and read-only instance.

read timeout

When calling a constructor using the SDK, it specifies the period of time that the SDK waits when attempting to read data from an API response before timing out.

read weight proportioning

The proportional load balancing of read-only instances in RDS to achieve realtime read throttling.

read/write splitting

A way to improve Cloud Native Distributed Database PolarDB-X performance. If physical database instances include read-only instances, you can configure the ratio of the read-only SQL statements between the primary and read-only instances on the PolarDB-X console. DRDS automatically identifies the type of SQL statements and runs the SQL statements based on the ratio.

read-only instance

An instance type in which data in the instance can be accessed but not modified. There are two types of physical database types based on whether the write is allowed: the primary instance that allows read and write and the read-only instance that only allows read. The primary instance applies to the primary MySQL instance in Apsara Stack and primary ApsaraDB for RDS instance in Alibaba Cloud public cloud. The read-only instance applies to the secondary MySQL instance in Apsara Stack and ApsaraDB for RDS instances in Alibaba Cloud public cloud.

read-only SQL

A type of SQL statement for reading data, such as SELECT statements.

Realtime Analytics

Realtime Analytics refers to the analysis of parameter process time during a dynamic process during the operation.

received traffic

SQL network traffic sent from applications to Cloud Native Distributed Database PolarDB-X.

Recovery Point Objective

The amount of data at risk, which is determined by the amount of time between data protection events and reflects the amount of data that potentially could be lost during a disaster recovery.

RPO

reference manual

A help document for users. It contains all reference contents that users need to know when they use the product.

region

Different regions are geographically far apart from each other, perhaps in different cities. Each zone belongs to certain region.

release cluster

An operation that releases a cluster. You can release a cluster after offline jobs are completed. You can also dynamically add nodes.

required parameter

The required parameter as defined by Alibaba Cloud.

resize

A method used to scale up the capacity of a disk attached to an ECS instance.

resize cluster

You are allowed to resize your cluster horizontally when your cluster resources (such as computing resource and storage resource) are not sufficient.

restart

The process by which a running computer system is restarted, either intentionally or unintentionally.

rollback

The action of restoring a disk to a state and setting from a previous point in time.

Round-Robin scheduling

A scheduling algorithm that Server Load Balancer uses to distribute the traffic. Requests are sequentially distributed to the back-end servers.

RR

route calculation

A calculation method that powers routing protocol functions and reduces routing overhead.

route entry

Each item in the route table, which defines the next hop address for the network traffic destined to a specific destination Classless Inter-Domain Routing (CIDR) block.

route table

A list of route entries in a VRouter.

RPS

The number of SQL statements performed each second, including begin, commit, insert, delete, and create table.

running

The normal operating status of instances. You can run your services on instances that are in this status.

S

scenarios

Narrative of foreseeable interactions of user roles and the technical system, which usually includes computer hardware and software.

schema migration

A type of migration. In database migration, it refers to the migration of schema definitions including tables, views, triggers, stored procedures, and storage functions. For migration between heterogeneous databases, the data type mapping is carried out in the schema migration phase, and the object type is changed to the appropriate target type. For example, when Oracle is migrated to MySQL, the number type in Oracle is mapped to the decimal type in MySQL.

schema update

An update that modifies the schema definition such as create table, alter table, drop view and so on. Users can choose whether to subscribe to schema updates when creating a subscription channel.

Secure Shell

A cryptographic network protocol for operating network services securely over an unsecured network. Typical applications include remote command-line login and remote command execution, but any network service can be secured with SSH.

SSH

security group

A virtual firewall with status check and filtering function to configure the network access control for one or more cloud servers. Instances within one security group are interconnected. Instances across security groups are not connected by default. Users are allowed to authorize the connection between security groups.

security group input rules

A set of rules that enable or disable the Elastic Compute Service (ECS) instances associated with the security group to access the Internet or intranet from the inbound direction.

security group output rules

A set of rules that enable or disable the Elastic Compute Service (ECS) instances associated with the security group to access the Internet or intranet from the outbound direction.

security vulnerability detection

A system that scans and analyzes systems and detects the vulnerability of these systems based on scans of databases. It also includes a security mechanism to determine if any new vulnerabilities are present.

separate attach

Operation of attaching disks to any ECS instance in the same zone is supported.

sequential partitioned message

A message that is partitioned by the sharding key for a topic. Messages in one partition are published and consumed in the strict First In, First Out (FIFO) order. A sharding key is a key field for distinguishing segments of ordered messages. The sharding key is different from the key of a standard message.

server

An application that agrees to request-side connections and sends responses. Applications can act as both a client and a server.

server differentiation

The machine models in the server group are differentiated into multiple hardware groups. The purpose of doing so is to match each application with proper server models after the product baseline is finalized.

Server Load Balancer

A concept of Server Load Balancer instances, which includes front-end ports, back-end ports, Server Load Balancer policies, and health check configurations. Each listener corresponds to a back-end application service.

Server Load Balancer monitoring

A function of listening to the ports, load balancing policies, and health check configurations.

server model group

The server specifications verified and confirmed by the Apsara Stack platform, including machine brand, hardware configuration, and manufacturer model number, and etc.

session persistence

A basic function of Server Load Balancer that distributes access requests from the same client to the same back-end server for processing.

shard hash key range

High-performance Key-Value storage system (cache and store) is developed by BSD open-source protocol.

shard key

A column in logical tables, according to which Cloud Native Distributed Database PolarDB-X routes data and SQL statements to physical tables.

sharding/partitioning mode

A mode that allows full use of all Cloud Native Distributed Database PolarDB-X features. It creates multiple libraries for a MySQL instance, and creates a Cloud Native Distributed Database PolarDB-X database from these tables.

shared block storage

A block-level data storage device that supports concurrent read/write access of multiple Elastic Compute Service (ECS) instances and features high concurrency, high performance, and high

reliability. Its data reliability reaches 99.9999999%. A single shared block storage can be attached to at most four ECS instances simultaneously.

shift

An operation that writes the remaining incremental records from MySQL binlog into Cloud Native Distributed Database PolarDB-X. It is a part of the data import and seamless scaling process.

short-lived connections

A connection created when both parties have data exchanges. The connection is closed after the data is sent. The data transmission occurs only once for each connection.

signature

A distinctive pattern, product, or characteristic by which someone or something can be identified.

signature mechanism

ECS service verifies each access request. No matter the request is with HTTP or HTTPS protocol, the response has to include signature information.

Single Point Of Failure

A part of a system that, if it fails, will stop the entire system from working.

SPOF

SLB instance

An instance running the Server Load Balancer (SLB) service.

small table copy

A solution that enables users to implement peer-to-peer synchronization of tables that do not change frequently, such as the configuration and constant tables across nodes. This speeds up the join queries between those tables and other split tables.

smooth scaling

Cloud Native Distributed Database PolarDB-X supports adding storage instance nodes to resize the database. Resizing without affecting the access to the original data is called smooth scaling.

snapshot

A copy of data on a disk at a certain point in time. There are two types of snapshots: automatic and manual snapshots.

snapshot quota

A quota limit for each disk. Each disk in Elastic Compute Service (ECS) can create at most 64 snapshots.

Software Defined Network

A method that separates the control level of network devices from the data level to flexibly control the network traffic and provide a good platform for the innovation of core networks and applications.

SDN

Software Development Kit

A collection of development tools used by software engineers when creating application software for a specific software package, software framework, hardware platform, or operating system.

SDK

Source Network Address Translation

The Source Network Address Translation translates the source address of an IP packet to another address.

SNAT

specification

The measure of the performance of different link specifications to the number of simultaneous records.

SSD cloud disk

A Solid-State Disk (SSD) that is installed on the Elastic Compute Service (ECS) instance, orients to the I/O-intensive applications, and provides stable and highly random IOPS performance.

SSH key pair

A new authentication method provided by Alibaba Cloud that allows you to log on to the Elastic Compute Service (ECS) instances remotely.

starting

The status of an instance when it is started or restarted in the console or by using an API until the instance runs normally. An exception occurs if an instance stays in this status for a long time.

statement

A syntactic unit that consists of a word or a group of syntactically associated words to express propositions, doubts, commands, wishes, or exclamations.

static website

A website with web pages composed of fixed content, including scripts (such as JavaScript) that are executed by the client without the need for prior web programming or database design.

static website hosting

Users can set their own bucket to the static website hosting mode. After the static website hosting mode is configured, the bucket can be accessed as a static website, and users can be automatically redirected to the index page or error page.

static/dynamic resource separation

Separation of static and dynamic resources from web pages or mobile applications.

stopped

The status of an instance after it stops normally. An instance in this status cannot provide external services.

stopping

The status of an instance after the stop operation is performed in the Apsara Stack console or by using an API until the instance actually stops. An exception occurs if an instance stays in this status for a long time.

storage

A service that is used to store information or data in a specific format in a specific medium built in or out of a computer. Meanwhile, valid access to the medium is guaranteed.

storage engine

A component of the MySQL database that manages how data is stored in files or memory. Each storage technology adopts a different storage mechanism, indexing technique, and locking mechanism. A storage technology provides a unique set of features and capabilities. You can select different storage technologies to obtain additional features such as improved data processing capabilities, improving the overall performance of applications.

subscription channel ID

A unique identification of a subscription channel. After you purchase a subscription channel, Data Transmission Service (DTS) automatically generates a subscription channel ID. When you use the SDK to consume incremental data, you need to configure the appropriate subscription channel ID. The subscription channel ID corresponding to each subscription channel is displayed in the subscription list of the DTS console.

sub-database

The physical database of each storage instance. Data in the logical database is stored in multiple physical storage instances after the Cloud Native Distributed Database PolarDB-X database is split horizontally.

subnet mask

For IPv4, a network may also be characterized by its subnet mask or netmask, which is the bitmask that when applied by a bitwise AND operation to any IP address in the network, yields the routing prefix. Subnet masks are also expressed in dot-decimal notation like an address. For example, 255.255.255.0 is the subnet mask for the prefix 198.51.100.0/24.

synchronization latency

The difference between the timestamp of the target instance in the source library, and the current timestamp of the homologous instance.

synchronized records per second

The number of records synchronized to the target instance per second (unit: RPS). Synchronized RPS is the specification by which the data synchronization service is sold.

syntax tree

A tree representation of the abstract syntax structure of source code written in a programming language. Each node of the tree represents a structure in the source code.

system disk

A disk that contains an operating system.

T

table broadcast

An action in which data of a single-database table is synchronized in advance to all sub-libraries. Cloud Native Distributed Database PolarDB-X then converts the cross-database combined query into a push-down joint query to be completed on the physical database.

table shard

The physical data table for each shard.

TCP retransmission

The resending of TCP packets that have been damaged or lost during transmission. TCP handles a retransmission by setting a timeout when it sends data, and if the data is not acknowledged when the timeout expires, it retransmits the data.

temporary table

A table that exists at the session level. Temporary tables are only visible to the session in which they were created and are automatically dropped when that session logs off, generally when the VFP exits. Temporary tables offer a performance benefit because their results are written to local storage, rather than remote storage.

three centers in two locations

A 3-redundancy system where two data centers are physically located in one city or equivalent area, however, the third data center must be physically located more than 1000 km away from the other two centers.

threshold

A function of mapping a domain name to a corresponding IP address based on DNS.

time granularity

A data unit exchanged and transmitted in a network, that is, a data block to be sent by a site at one time.

tracing path

A computer network diagnostic tool for displaying the route (path) and measuring transit delays of packets across an IP network

transit traffic

The network traffic of Cloud Native Distributed Database PolarDB-X is sent to the application result set.

Transmission Control Protocol

A connection-oriented and reliable transport layer communication protocol that is based on byte streams.

TCP

Transparent Data Encryption

Realtime I/O encryption and decryption of the entire database (including data and log files).

It is completely transparent to applications and does not require any modifications to existing applications.

TDE

trigger

A method that the SQL server provides for programmers and data analysts to guarantee the data integrity. It is a special storage process related to table events. It is initiated by events, not called by programs or started manually. For example, when a table is inserted, deleted, or updated, a trigger is initiated. The trigger is typically used to reinforce data integrity and business rules.

trusted cloud

A program of the Cloud Security Alliance industry group created to help cloud service providers develop industry-recommended, secure and interoperable identity, access and compliance management configurations and practices. Alibaba Cloud is the first cloud services provider to obtain the CSA STAR gold medal certification.

Tubo

Statistics: Displays statistics about relationships and entities in relational networks, including overall distribution, object familiarity, and relationship attributes.

two centers in one location

The action of deploying two data centers in the same geographic area, one acting as the production center and one acting as the disaster recovery center. This ensures highly-effective disk data synchronization and asynchronous backup is performed between the centers to minimize impacts to availability.

U

ultra cloud disk

A cloud disk that combines Solid-State Disk (SSD) and Hard Disk Drive (HDD) as the storage media.

URL forward

The action of automatically redirecting you to a preset address when you access a domain name. It includes explicit and implicit URL forwarding.

User Datagram Protocol

User Datagram Protocol (UDP) is one of the core members of the Internet protocol suite. The protocol was designed by David P. Reed in 1980 and formally defined in RFC 768. With UDP, computer applications can send messages, in this case referred to as datagrams, to other hosts on an Internet Protocol (IP) network. Prior communications are not required in order to set up communication channels or data paths.

UDP

V

verification

A process that verifies a result.

VIPServer

The service IP address mapping and environment management system. Based on centralized configurations, it provides users with routing information to achieve load balancing that does not depend on gateways. Multiple mapping policies (round robin, round robin of services deployed in a data center, and round robin of services deployed within a network segment) are supported. A health check mechanism automatically removes unhealthy hosts. The invocation between clusters is transparent. A certain amount of data, such as caller information and the number of invocation requests, is also provided.

Virtual Boarder Router

The mapping of your leased line in VPCs. It can be regarded as a VRouter, or a forwarding bridge between an on-premises data center and a VPC.

VBR**Virtual Extensible LAN**

A VXLAN-based Layer-2 network. A single VXLAN belongs to a large VXLAN network pool.

VXLANs are isolated from each other at Layer-2.

VXLAN**Virtual Local Area Network**

An emerging data exchange technology that logically divides Local Area Network (LAN) devices into segments to implement the virtual work group.

VLAN**Virtual Network Layer**

The network where the Elastic Compute Service (ECS) instances reside. It avoids the limits of physical network layer. User logic and transmitted contents at the virtual network layer are invisible to the physical network layer, and the physical network layer does not parse the transmitted information at the virtual network layer, which protects the user privacy. The virtual network layer is completely implemented by using softwares. The separation between data layer and control layer, path decision, and policy delivery are completed by the controller at the virtual network layer. Therefore, the Software Defined Network (SDN) is implemented.

Virtual Private Cloud

The custom private network created based on Alibaba Cloud. Full logical isolation is achieved between VPCs. You can create and manage cloud product instances, such as Elastic Compute Service (ECS), Relational Database Service (RDS), and Object Storage Service (OSS), in your created VPCs.

VPC**VNC**

A function in the Alibaba Cloud console, which is used to connect to the Elastic Compute Service (ECS) instances if common remote connection tools, such as PuTTY, Xshell, and SecureCRT, are unavailable.

VRouter

A networking hub that uses Linux-specific VM instances to implement multiple network services.

VServer group

A group of back-end servers that can be customized and managed in the listener dimension. They allow listeners under an SLB instance to distribute different requests to different back-end servers depending on the configured forwarding rule.

VSwitch

A basic network device of Virtual Private Cloud (VPC), which can connect to different cloud product instances and must be specified when you create a cloud product instance in VPC.

W

weak password

Weak passwords are passwords that are easy to be decrypted, mostly simple combinations of numeric digits, digits that are the same with the account name, keys that are close to each other on the key board, or common names, such as "123456", "abc123", "Michael". Universal passwords of terminals newly shipped from factories also belong to weak password.

web vulnerability detection

The process of testing a web application's susceptibility to malicious tampering or other illicit activity through the means of scanning remote and local systems.

weight

A relative value that indicates the importance of the index in the overall evaluation.

Weighted Least Connections

A scheduling algorithm that Server Load Balancer uses to forward traffic. In addition to the weight set to each back-end server, the actual loads (number of connections) of the back-end server must be considered. If the weights of the back-end servers are the same, a new request is sent to the server with the fewer connections.

WLC

Weighted Round Robin

A scheduling algorithm that Server Load Balancer uses to forward traffic. Back-end servers with higher weights receive more requests than those with lower weights.

WRR**whitelist**

An access control method. When a user is added to the whitelist, the user is permitted access.

Users who are not on the whitelist are not permitted access. The opposite of a blacklist.

Z**zone**

The reference to a physical, isolated area with an independent power grid and network in a region.

Each zone in a region is isolated, but the network latency for resources within the same zone is lower than across zones. Intranet communication can take place between resources in different zones of the same region, and fault isolation can be performed between zones. Deployment of resources in the same zone depends on the requirements for disaster recovery and network latency.

zone-disaster recovery

A redundancy system where two data centers are physically located in one city or an equivalent area, and are at least 1,000km apart.

zone-disaster recovery and backup

Zone-disaster recovery and backup is the local backup of the production data in the zone-disaster recovery data center. It features by its high speed, but cannot guarantee the availability of the data and system in the local backup data center in case of severe disaster.