

Cloud Phone

What's New

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1 What's New



The tables below describe the functions released in each Cloud Phone Host (CPH) version and corresponding documentation updates. New features will be successively launched by region.

August 2023

No.	Feature	Description	Related Documents
1	Next-generation cloud phone specifications	Next-generation cloud phone specifications are available.	Servers for General-Purpose Cloud Phones

June 2023

No.	Feature	Description	Related Documents
1	Scenario-based permissions configuration	You can assign all permissions, operation permissions, read-only permissions, and given operation permissions of cloud phone servers or cloud phones.	Example Permission Configuration
2	EIP change	You can change the EIP of a cloud phone server.	Changing an EIP

May 2023

No .	Feature	Description	Related Documents
1	IPv4/IPv6 dual stack	CPH supports the IPv4/IPv6 dual stack.	Buying a Cloud Phone Server

April 2023

No .	Feature	Description	Related Documents
1	List page and filtering optimized	Both cloud phone servers and cloud phones can be listed on different pages. Their total numbers can also be displayed. Cloud phone servers and cloud phones can be filtered by status. Cloud phone servers and cloud phones can be filtered by time range during which they were created.	N/A

March 2023

No .	Feature	Description	Related Documents
1	Application sharing	The best practice of CPH application sharing is released.	Best Practices of Cloud Phone Application Sharing
2	Next-generation RX3 cloud phone servers	The next-generation RX3 cloud phone servers are put into commercial use.	Servers for General-Purpose Cloud Phones

January 2023

No .	Feature	Description	Related Documents
1	API Explorer supported for API debugging	CPH supports API Explorer for API debugging.	N/A

December 2022

No .	Feature	Description	Related Documents
1	Interconnection with My Resources	CPH interconnects with My Resources , enabling you to view cloud phone servers you purchased on Huawei Cloud.	Supported Services and Regions

June 2022

No .	Feature	Description	Related Documents
1	Cloud phone positioning optimized	Cloud phone positioning optimized to support base station positioning simulation.	AOSP 7 Cloud Phone Image Change History

May 2022

No .	Feature	Description	Related Documents
1	Multiple APKs can be installed on a cloud phone.	The CPH APK installation API supports the multiple-install command.	Installing the APK

April 2022

No .	Feature	Description	Related Documents
1	AOSP 9 supported AOSP 9 integrating the audio and video 3.0 SDK	AOSP 9 image supported for cloud mobile gaming servers. AOSP 9 integrates the audio and video 3.0 SDK.	AOSP 9 Image Change History of Gaming Cloud Phones

March 2022

No .	Feature	Description	Related Documents
1	Application sharing and hot reloading of application versions	The CPH shared storage supports hot reloading of applications. You do not need to reset your cloud phone when updating an application version.	Pushing a Shared Application

January 2022

No .	Feature	Description	Related Documents
1	AOSP 9 supported	AOSP 9 image supported for cloud phones.	AOSP 9 Cloud Phone Image Change History

December 2021

No .	Feature	Description	Related Documents
1	Purchase of cloud phones from the Guangzhou region	You can purchase cloud phones in the CN South-Guangzhou region using an account registered with the Huawei Cloud International website.	N/A

November 2021

No .	Feature	Description	Related Documents
1	Custom network	You can customize VPCs and subnets for your cloud phones.	Purchasing a Cloud Phone Server Buying a Cloud Phone Server That Uses a Custom Network (Recommended)

October 2021

No .	Feature	Description	Related Documents
1	CPH event notification	You can configure cloud phone event alarm notifications on Cloud Eye to learn of key cloud phone events and handle them in a timely manner.	Events Supported by Event Monitoring

August 2021

No .	Feature	Description	Related Documents
1	Device emulation	CPH supports emulation of devices such as cameras, microphones, and sensors.	Device Emulation
2	Audio and video collection and encoding	CPH provides an audio and video engine, so you can use a cloud phone to collect and encode audio and video.	Cloud Phone Audio and Video

July 2021

No .	Feature	Description	Related Documents
1	Inbound traffic and outbound traffic of cloud phone servers available	The inbound traffic and outbound traffic of cloud phone servers can be obtained from Cloud Eye.	Supported Metrics

May 2021

No .	Feature	Description	Related Documents
1	Custom network supported in the CN Southwest-Guiyang1 region	When buying a cloud phone server, you can select your own VPC, subnet, and bandwidth.	Buying a Cloud Phone Server
2	API for querying cloud phone server details optimized	The CPH API for querying cloud phone server details can return information about the disk attached to the server and the bandwidth information.	Querying Details About a Cloud Phone Server
3	CPH console optimized	On the cloud phone server details page, you can view the shared bandwidth used by cloud phones, change the bandwidth size, and view monitoring data.	Buying a Cloud Phone Server
4	Cloud phone task execution optimized	Batch task execution efficiency of cloud phones optimized.	Managing Cloud Phones in Batches

March 2021

No .	Feature	Description	Related Documents
1	Microphone emulation supported by gaming cloud phones	Cloud phones virtualized from a cloud mobile gaming server support microphone emulation. An audio and video simulation hardware API is used to register callback to obtain microphone enabling or disabling events, and then recording data is injected. Based on this emulation, the application layer can provide functions such as in-game recording and voice chat.	N/A

February 2021

No .	Feature	Description	Related Documents
1	Input method of mobile phones supported by gaming cloud phones	You can use mobile phone input methods when using cloud phones virtualized from a cloud mobile gaming server. This improves user experience as you use the same input method you are used to.	N/A
2	Data statistics supported by gaming cloud phone SDKs	Gaming cloud phone SDKs support registration statistics. They can track items such as the frame rate, snapshot speeds, encoding duration, and decoding duration.	N/A
3	Device-cloud data collaboration	The H5 SDK of gaming cloud phones can send your data to gaming cloud phones.	N/A

January 2021

No .	Feature	Description	Related Documents
1	App installation blacklist	Applications added to the blacklist cannot be installed. By default, the blacklist is not configured.	App Installation Blacklist
2	App installation whitelist	Only applications added to the whitelist can be installed. If no whitelist is configured, any APK can be installed.	App Installation Whitelist

No	Feature	Description	Related Documents
3	Loading pictures to the cloud phone virtual camera	You can load specified pictures to the virtual camera to implement functions such as scanning QR codes.	Loading Pictures

December 2020

No	Feature	Description	Related Documents
1	Cloud mobile gaming servers launched in the CN Southwest-Guiyang1 region	Cloud mobile gaming servers can be purchased in the CN Southwest-Guiyang1 region.	Cloud Mobile Gaming Servers
2	Shared storage monitoring	Shared storage usage of cloud phone servers can be monitored.	Supported Metrics

November 2020

No.	Feature	Description	Related Documents
1	CPH console optimized	You can view image update records in the image details area of a cloud phone.	Querying Details About a Cloud Phone

October 2020

No.	Feature	Description	Related Documents
1	CPH console optimized	<ul style="list-style-type: none"> Parameter AZ is available when you purchase a cloud phone server. Network configuration optimized for server purchases. Features, application scenarios, and billing modes of the two bandwidth types (dedicated bandwidth and shared bandwidth) were added, and when you create a shared bandwidth, the system does not provide the default bandwidth size. You can configure the bandwidth size based on service requirements. Servers on the server list page can be filtered by ID. 	Buying a Cloud Phone Server

September 2020

No.	Feature	Description	Related Documents
1	Gaming cloud phones of 1080p and 540p launched	<ul style="list-style-type: none"> 1080p gaming cloud phone (kg1.cg.c20.d50SSD.e1v1) added. This phone is suitable for role-playing, sports racing (car racing and football), and multi-player sports games. 540p gaming cloud phone (kg1.cg.c80.d16SSD.e1v1) added. This phone is suitable for card games and casual puzzle games. 	Cloud Mobile Gaming Servers
2	iOS is added to the gaming cloud phone SDK. The Android SDK supports JAR package integration.	<p>You can use the SDK provided by the gaming cloud phones to quickly develop cloud mobile gaming services. The following languages are supported: Android, H5, and iOS.</p> <p>The JAR package integration added to the Android SDK.</p>	N/A

August 2020

No.	Feature	Description	Related Documents
1	Custom network	When purchasing a server, you can choose to use a custom network to locate the server and adapt to the network planning of global services.	Buying a Cloud Phone Server
2	Route configuration supported	You can configure routes to forward all outbound traffic of all your cloud phones to the selected VPC peering connection, facilitating intranet communication management for cloud phones without EIPs.	Configuring a Route
3	Monitoring of cloud phone servers, cloud phones, disks, and GPUs	<p>On the Cloud Eye console, you can view monitoring information for all your cloud phones and associated resources (cloud phone servers, disks, and GPUs). More than 30 metrics for CPU, memory, disk, and network are supported to meet basic monitoring and O&M requirements of cloud services.</p> <p>You can create alarm rules and configure alarm notifications to learn about the usages and statuses of cloud phones, cloud phone servers, disks, and GPUs in a timely manner.</p>	<ul style="list-style-type: none"> • Supported Metrics • Viewing CPH Metrics • Creating an Alarm Rule

June 2020

No.	Feature	Description	Related Documents
1	Trial cloud phones taken offline	Due to limited cloud phone resources and many usage restrictions on trial cloud phones, trial cloud phones have been taken offline.	N/A
2	Update of cloud phone attributes	On the CPH console, you can update the cloud phone attributes, such as the product model, device model, whether to hide the virtual key, and whether to display the cloud phone in landscape mode.	<ul style="list-style-type: none"> • Console: Updating Cloud Phone Attributes • API: Updating Cloud Phone Attributes

May 2020

No.	Feature	Description	Related Documents
1	Cloud phone servers of new specifications available	The physical.kg1.4xlarge.cp and physical.kg1.4xlarge.cg processors provide powerful compute power and high-performance networks, which are especially suitable for gaming scenarios.	Cloud Mobile Gaming Servers
2	Server name being editable	To make it easy for you to quickly identify each server and manage them, CPH allows you to change server names at any time.	Editing a Server Name
3	Shared bandwidth size configurable	If you select a shared bandwidth when purchasing a server, the system creates a 2,000 Mbit/s bandwidth and names it whole-bandwidth-xxxx by default. You can adjust the shared bandwidth size based on service requirements.	Buying a Cloud Phone Server

April 2020

No.	Feature	Description	Related Documents
1	Cloud mobile gaming servers available	Cloud mobile gaming servers use GPU hardware acceleration and graphics interfaces to run mobile games on the cloud. The servers are suitable for scenarios like mobile game trial promotions and intelligent game assistance. The cloud mobile gaming server has built-in cloud mobile gaming access software, helping you quickly build your own cloud mobile gaming services.	Cloud Mobile Gaming Servers

No.	Feature	Description	Related Documents
2	Names of cloud phones being editable	<p>Naming rules:</p> <p>The system automatically adds a hyphen followed by a one-digit incremental number to the end of each server name. For the names of the cloud phones that are virtualized from the server, the system automatically adds a 5-digit numerical suffix in ascending order. For example, if you enter cloudphone, the first server's name will be cloudphone-1, and the name of the first cloud phone on this server will be cloudphone-1-00001.</p> <p>If this automatic naming method cannot meet your requirements, you can change the cloud phone name at any time.</p>	<ul style="list-style-type: none"> Console: Editing the Name of a Cloud Phone API: Editing the Name of a Cloud Phone

March 2020

No.	Feature	Description	Related Documents
1	ADB connection to cloud phones	<p>You can use the Access Through ADB function on the console to quickly connect to a cloud phone. This method is a convenient way to establish an ADB connection through the public network. The connection principles are the same.</p>	<ul style="list-style-type: none"> ADB (Recommended) ADB (Internet)

February 2020

No.	Feature	Description	Related Documents
1	CPH documentation optimized	<p>The following contents are optimized to provide you with more detailed, easy-to-use, and valuable help documents.</p> <ul style="list-style-type: none"> The outline was adjusted. Steps were optimized. Description of scenarios were added. 	<ul style="list-style-type: none"> Service Overview User Guide FAQs

October 2019

No.	Feature	Description	Related Documents
1	CPH console launched	The management console is a web-based service management system that provides an intuitive user interface. You can use the console to manage Huawei Cloud products, such as purchasing cloud phone servers and connecting to cloud phones.	<ul style="list-style-type: none"> • Buying a Cloud Phone Server • Accessing the Cloud Phone

January 2019

No.	Feature	Description	Related Documents
1	CPH launched	<p>Huawei Cloud Kunpeng cloud phones were launched for the first time. Only API capabilities are available. CPH was officially open to enterprises and developers.</p> <p>You can remotely control the cloud phone in real time to run Android applications on the cloud. You can also use the compute power of cloud phones to efficiently build applications for scenarios like cloud gaming, virtual office, and live streaming interaction.</p>	<ul style="list-style-type: none"> • What Is Cloud Phone Host? • Cloud Phone Host API Reference

2 AOSP 7 Image Change History

2.1 AOSP 7 Cloud Phone Image Change History

You can [restart cloud phones](#) to use the images listed in the table below.

Cloud phones whose flavors have **qemu** in the name (such as rx1.cp.c60.d32.e1v1.qemu) cannot use these images.

NOTICE

The AOSP 7 cloud phone images released on August 22, 2022 or later cannot be deployed together on the same server with the AOSP 7 cloud phone images that was released before August 22, 2022.

August 27, 2024

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none">Image ID for servers of all flavors: 24070320240823f000100a210000085	N/A	<ul style="list-style-type: none">Occasional touch control errors

August 15, 2024

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID for servers of all flavors: 24070120240809f000100a210000051 	<ul style="list-style-type: none"> The device-cloud engine supports screenshot outbound streams. 	<ul style="list-style-type: none"> Freezing of Genshin Impact

July 31

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID for servers of all flavors: 24060420240724f000100a21000008ce 	<ul style="list-style-type: none"> AOSP of cloud phones optimized to improve stability. 2K-60 FPS video outbound streams supported. The time for the GPS injection data to take effect shortened. Preemption mode added to the device-cloud engine to support connections to cloud phones that have been connected by other clients. The device-cloud engine supports on-demand sensor data injection, satellite data injection (navigation scenarios), and on-demand haptics. 	<ul style="list-style-type: none"> Stopping of outbound stream stuck issue Noises in audio outbound streams Stability issues of the camera module Positioning accuracy Uninstalled applications still occupied disk space. Contacts and call history were lost during backup and restoration. Issue where the value of ro.build.version.sdk could not take effect immediately Black screen issues when the device-cloud engine was reconnected

June 11, 2024

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID for servers of all flavors: 24040320240525f000100a210000084e 	<ul style="list-style-type: none"> Cloud phone starts faster than before when a large number of shared applications are pre-installed. 	<ul style="list-style-type: none"> The Phoneld field in the heartbeat message reported by CAE was blank. Rendering anomalies of Fortnite, Night Crows, and LifeAfter Outbound stream failures in AUTO mode when the audio and video resolution exceeded 1080p

April 29, 2024

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID for servers of all flavors: 24030420240424f000100a210000070e 	<ul style="list-style-type: none"> The app used to access cloud phones on a mobile phone will inject data required by a cloud phone to the CPH audio and video SDK. The audio and video SDK can synchronize vibration instructions from cloud phones to mobile phones. CAE upgraded to 24.3.0. 	<ul style="list-style-type: none"> Touch stability issues of cloud phones Compatibility issues

March 22, 2024

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> ● Image ID for servers of all flavors: 24020020240227f000100a210000ce3 	<ul style="list-style-type: none"> ● The audio and video SDK optimized to reduce the first frame generation time. ● Reboot command introduced to restart a cloud phone. ● The rendering module of AOSP optimized to improve the smoothness of some games. ● Multiple configuration files supported at the same time by shared applications. ● CAE upgraded to 23.12.2. 	<ul style="list-style-type: none"> ● audioServer exceptions in certain scenarios ● Abnormal outbound audio streams from the audio SDK in certain scenarios ● Uninstallation residual issues of shared applications ● Artifacts in some applications ● Scans of local images in incorrect directions ● VRAM usage of some applications ● Taking too long to stop outbound streams in some scenarios ● Touch exceptions in certain scenarios

December 22, 2023

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID for servers of all flavors: 23110320231220f000100a210000f6d 	<ul style="list-style-type: none"> The efficiency of outbound audio and video streams improved. The video memory optimized to address frame freezing issues in some gaming scenarios. 	<ul style="list-style-type: none"> GPU memory leaks in specific scenarios Abnormal exits of some applications that were mistakenly killed by the Android Low Memory Killer Daemon (lmkd) process Abnormal recording of some applications Application Not Responding (ANR) issues of some applications Outbound streams frozen in some scenarios

November 10, 2023

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> ● Image ID for servers of all flavors: 23100120231106f000100a21000006a 	<ul style="list-style-type: none"> ● The initialization speed of outbound audio and video streams optimized. ● Audio and video touch control optimized. ● The mode of outbound audio and video streams changed to bit rate first. ● GPS stability improved. 	<ul style="list-style-type: none"> ● Reliability issues of shared applications ● Frame freezing during outbound streams when GPU hard encoding is used on the cloud phone server ● Stability issues of outbound audio and video streams ● Application crashes after users restored applications from backup in certain scenarios

September 15, 2023

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> ● Image ID of flavor physical.rx1.xlarge: 23080220230912f101210a2100000891 ● Image ID of flavors physical.kg1.4xlarge.cp and physical.rx3.32xlarge.4: 23080220230912f201220a2100000c87 	<ul style="list-style-type: none"> ● Restarting a cloud phone takes less time. ● Root permissions can be assigned to specific applications. ● Instant update of shared storage 2.0 applications supported and application data retained. ● Outbound stream stability of the cloud phone data plane SDK optimized. ● Verification of the ratio of the screen capture resolution to the primary screen resolution through the data plane SDK removed. ● The forced I-frame API of the data plane SDK was optimized to support the generation of I-frames in YUV or RGB format. ● More stable frame supplementation with the data plane SDK ● The display ratio of components in the output images through 	<ul style="list-style-type: none"> ● The open video API of the data plane SDK cannot be called consecutively.

Image ID	New Features	Bugs Fixed
	<p>the data plane SDK optimized.</p> <ul style="list-style-type: none"> The maximum bit rate of an outbound stream through the data plane SDK can be 40 Mbit/s. 	

July 24, 2023

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.rx1.xlarge: 23060320230721f101210a2100002da Image ID of flavors physical.kg1.4xlarge.cp and physical.rx3.32xlarge.4: 23060320230721f201220a210000a27 	<ul style="list-style-type: none"> SD card storage performance optimized. (This feature depends on the OS. You need to restart the server to upgrade the OS.) Texture compression switch added. Data plane (audio, video, and touch access) SDK 5.0 released. 	<ul style="list-style-type: none"> It takes a long time to disable virtual devices in the SDK. When the SDK is used, no frame is generated for static images. OOM issues in specific scenarios fixed by optimizing the memory management service (cph_performance) Compatibility issues

July 11, 2023

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.rx1.xlarge: 23060020230626f101210a210000052c Image ID of flavors physical.kg1.4xlarge.cp and physical.rx3.32xlarge.4: 23060020230626f201220a210000068b 	None	<ul style="list-style-type: none"> Stability issues of outbound audio and video streams Artifacts occurred when the first frame is encoded by an external encoding server Compatibility issues

June 07, 2023

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.rx1.xlarge: 23050020230601f101210a2100000502 Image ID of flavors physical.kg1.4xlarge.cp and physical.rx3.32xlarge.4: 23050020230601f201220a2100000638 	<ul style="list-style-type: none"> CloudAppEngine (CAE) integrated. The system disk is read-only. The image is not rooted. 	<ul style="list-style-type: none"> Touch smoothness issues Compatibility issues

May 09, 2023

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.rx1.xlarge: 23040120230505f101210a2000000782 Image ID of flavors physical.kg1.4xlarge.cp and physical.rx3.32xlarge.4: 23040120230505f201220a20000007fe 	<ul style="list-style-type: none"> IPv6 supported. Traffic outgoing of a cloud phone server optimized to use less CPU and GPU resources. 	<ul style="list-style-type: none"> Artifacts in some applications Compatibility issues

March 15, 2023

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.rx1.xlarge: 23010220230215f101210a2000000d2f Image ID of flavors physical.kg1.4xlarge.cp and physical.rx3.32xlarge.4: 23010220230215f201220a2000000b08 	None	<ul style="list-style-type: none"> Reliability issues for shared storage 2.0 Sensor stability issues Compatibility issues

December 15, 2022

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.rx1.xlarge: 22110120221209f101210a2000000c4f Image ID of flavor physical.kg1.4xlarge.cp: 22110120221209f201220a2000000a7e 	<ul style="list-style-type: none"> System startup speed optimized. Shared storage 2.0 supports the obb directory. Audio/Video 3.0 supports multiple game controllers. 	<ul style="list-style-type: none"> Black screen issues during video playback The game controller icon cannot be canceled in some games. Unresponsive touch plug-in in the audio and video SDK in some scenarios System crashes caused by excessively long application package names Artifacts in some applications Compatibility issues The flow control mode for audio/video 3.0 encoding was crf, and the bit rate control was invalid.

November 04, 2022

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.rx1.xlarge: 22100020221101f101210a2000000d20 Image ID of flavor physical.kg1.4xlarge.cp: 22100020221101f201220a2000000b14 	<ul style="list-style-type: none"> Video encoding on remote servers supported. Background process management supported. WebView upgraded to 99.0.4844.88. 	<ul style="list-style-type: none"> Compatibility issues

September 16, 2022

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.rx1.xlarge: 22080220220915f101210a20000001b4 Image ID of flavor physical.kg1.4xlarge.cp: 22080220220915f201220a200000053b 	N/A	<ul style="list-style-type: none"> Application crashes Servers froze in specific scenarios. Cloud phones reset failures in certain scenarios Abnormal running of cloud phones in certain scenarios

August 22, 2022

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> ● Image ID of flavor physical.rx1.xlarge: 22070320220817f101210a2000000629 ● Image ID of flavor physical.kg1.4xlarge.cp: 22070320220817f201220a2000000184 	<ul style="list-style-type: none"> ● Hardware decoding simulation fixed an issue where some games failed to play videos. ● GPU driver upgraded. ● The Wi-Fi name can be dynamically updated. 	<ul style="list-style-type: none"> ● Blurry and crash issues in some applications ● Frame freezing issues and OOM risks (fixed by optimizing SD card memory usage) ● The obtained durations of video or audio content in TS format were incorrect. ● Slow application installation (fixed by using the fast-install command) ● The touch control was abnormal when the audio and video SDK was not operated for a long time. ● Applications could not be installed in certain scenarios. ● Photos could not be taken in certain scenarios. ● Cloud phones failed to be reset due to an SD card D process.

June 23, 2022

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.rx1.xlarge: 22050320220620f101210a20000008d7 Image ID of flavor physical.kg1.4xlarge.cp: 22050320220620f201220a2000000837 	<ul style="list-style-type: none"> Storage 2.0 supported. The system language can be dynamically changed on the CLI. Positioning capability optimized. 	<ul style="list-style-type: none"> Compatibility issues Artifacts and green screens in certain scenarios Video green screens in certain scenarios Camera crashes in certain scenarios Crashed short video applications

March 07, 2022

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.rx1.xlarge: 21120420220117f101110a2000000d57 Image ID of flavor physical.kg1.4xlarge.cp: 21120420220117f201120a200000064e 	N/A	<ul style="list-style-type: none"> Green screen issues with PSTurbo.exe Floating window authorization issues Occasional mount failures of the SD card Startup error logs The system disk was full in certain scenarios. The disk space size was incorrectly displayed.

October 11, 2021

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.rx1.xlarge: 21090120211009f101210a200000025b Image ID of flavor physical.kg1.4xlarge.cp: 21090120211008f201220a200000004c 	<ul style="list-style-type: none"> WebView upgraded to 90.0.4430.210. Thai, Arabic, Burmese, and Indonesian supported. SurfaceFlinger optimized. Scanning of applications auto-started upon device power-on optimized. 	<ul style="list-style-type: none"> MP4 files could not be played in WebView. Issues of the PixelFormat.RGBA_8888 image format Inaccurate statistics of the top command

August 26, 2021

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.rx1.xlarge: 21060320210720f101210a2000000038 Image ID of flavor physical.kg1.4xlarge.cp: 21060320210720f201220a2000000d21 	<ul style="list-style-type: none"> Cloud phone audio and video SDK 3.0 available. WebView upgraded to 88.0.4324. 	None

February 04, 2021

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.rx1.xlarge: 21010120210202f101210a2000000d93 Image ID of flavor physical.kg1.4xlarge.cp: 21010120210202f201220a200000051c 	<ul style="list-style-type: none"> Search box removed from the desktop. Network stability of cloud phones improved. Mining software banned. 	Applications failed to be installed due to application package name filtering.

January 13, 2021

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.rx1.xlarge: 20120320210113f101210a2000000283 Image ID of flavor physical.kg1.4xlarge.cp: 20120320210113f201220a2000000906 	<ul style="list-style-type: none"> System startup time optimized. Application installation blacklist and whitelist supported. WebView version updated. The transcoder supported application precompilation (but was disabled by default). 	<ul style="list-style-type: none"> Abnormal display of phone numbers in Settings Occasional GPS failure Graphics system timeouts

November 18, 2020

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.rx1.xlarge: 20100320201118f101210a2000000d6b Image ID of flavor physical.kg1.4xlarge.cp: 20100320201118f201220a2000000198 	N/A	Graphics processing timeouts

November 04, 2020

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.rx1.xlarge: 20100120201104f101210a2000000f09 Image ID of flavor physical.kg1.4xlarge.cp: 20100120201104f201220a20000009f4 	<ul style="list-style-type: none"> Wi-Fi added. Bluetooth added. The graphics processing API was optimized, and the YUV outbound stream API was added. Logs of the su command optimized. 	<ul style="list-style-type: none"> Information such as DNS was lost. A green screen was displayed when Red, Green, Blue (RGB) was converted to YUV. YUV stands for (Y) luma, or brightness, (U) blue projection and (V) red projection. Videos were played quickly in video applications.

October 09, 2020

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.rx1.xlarge: 20090020200930f101210a2000000587 Image ID of flavor physical.kg1.4xlarge.cp: 20090120201009f201220a20000007f8 	<ul style="list-style-type: none"> The screen off process optimized. SD card reliability enhanced. YUV format supported for video playback. adb process enhanced. WebView upgraded to 84.0.4147.125. 	<p>Dots per inch (DPI) configuration</p>

August 06, 2020

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.rx1.xlarge: 20070120200806f101110a200000093d Image ID of flavor physical.kg1.4xlarge.cp: 20070120200806f201120a20000003c9 	<ul style="list-style-type: none"> AOSP system signature replaced. Camera QR code scanning added. 	<ul style="list-style-type: none"> Performance of the alarm component (This modification takes effect only after a server restart.) Graphics card processing sometimes timed out.

2.2 AOSP 7 Image Change History of Gaming Cloud Phones

You can [restart cloud phones](#) to use the images listed in the table below.

NOTICE

The AOSP 7 gaming cloud phone images released on August 22, 2022 or later cannot be deployed together on the same server with the AOSP 7 gaming cloud phone images released before August 22, 2022.

November 10, 2023

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> ● Image ID for servers of all flavors: 23100120231110f004101b2100004c5 	<ul style="list-style-type: none"> ● The initialization speed of outbound audio and video streams optimized. ● Audio and video touch control optimized. ● The mode of outbound audio and video streams changed to bit rate first. ● GPS stability improved. 	<ul style="list-style-type: none"> ● Reliability issues of shared applications ● Frame freezing during outbound streams when GPU hard encoding is used on the cloud phone server ● Stability issues of outbound audio and video streams ● Application crashes that happened after users use backups to restore applications in certain scenarios

September 15, 2023

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> ● Image ID of flavor physical.rx1.xlarge.cg: 23080220230912f104211b210000b42 ● Image ID of flavors physical.kg1.4xlarge.cp and physical.rx3.32xlarge.4: 23080220230912f204221b210000e9f 	<ul style="list-style-type: none"> ● Restarting a cloud phone takes less time. ● Root permissions can be assigned to specific applications. ● Instant update of shared storage 2.0 applications supported and application data retained. ● Outbound stream stability of the cloud phone data plane SDK optimized. ● Verification of the ratio of the screen capture resolution to the primary screen resolution through the data plane SDK removed. ● The forced I-frame API of the data plane SDK was optimized to support the generation of I-frames in YUV or RGB format. ● More stable frame supplementation with the data plane SDK ● The display ratio of components in the output images through 	<ul style="list-style-type: none"> ● The open video API of the data plane SDK cannot be called consecutively.

Image ID	New Features	Bugs Fixed
	<p>the data plane SDK optimized.</p> <ul style="list-style-type: none"> The maximum bit rate of an outbound stream through the data plane SDK can be 40 Mbit/s. 	

July 24, 2023

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.rx1.xlarge.cg: 23060320230721f104211b21000005c0 Image ID of flavors physical.kg1.4xlarge.cp and physical.rx3.32xlarge.4: 23060320230721f204221b2100000fd4 	<ul style="list-style-type: none"> SD card storage performance optimized. (This feature depends on the OS. You need to restart the server to upgrade the OS.) Texture compression switch added. Data plane (audio, video, and touch access) SDK 5.0 released. 	<ul style="list-style-type: none"> It takes a long time to disable virtual devices in the SDK. When the SDK is used, no frame is generated for static images. OOM issues in specific scenarios fixed by optimizing the memory management service (cph_performance) Compatibility issues

July 11, 2023

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.rx1.xlarge.cg: 23060020230626f104211b2100000e d4 Image ID of flavors physical.kg1.4xlarge.cp and physical.rx3.32xlarge.4: 23060020230626f204221b21000000 94 	None	<ul style="list-style-type: none"> Stability issues of outbound audio and video streams Artifacts occurred when the first frame is encoded by an external encoding server Compatibility issues

June 07, 2023

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.rx1.xlarge.cg: 23050020230601f104211b2100000f 35 Image ID of flavors physical.kg1.4xlarge.cp and physical.rx3.32xlarge.4: 23050020230601f204221b21000002 5a 	<ul style="list-style-type: none"> CAE integrated The system disk is read-only. The image is not in the root state. 	<ul style="list-style-type: none"> Touch smoothness issues Compatibility issues

May 09, 2023

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.rx1.xlarge.cg: 23040120230505f104211b2000000a b6 Image ID of flavors physical.kg1.4xlarge.cp and physical.rx3.32xlarge.4: 23040120230505f204221b20000001 ad 	<ul style="list-style-type: none"> IPv6 supported. Traffic outgoing of a cloud phone server optimized to use less CPU and GPU resources. 	<ul style="list-style-type: none"> Artifacts in some applications Compatibility issues

March 15, 2023

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.rx1.xlarge.cg: 23010220230215f104211b20000007db Image ID of flavors physical.kg1.4xlarge.cp and physical.rx3.32xlarge.4: 23010220230215f204221b2000000f5c 	None	<ul style="list-style-type: none"> Reliability issues for shared storage 2.0 Sensor stability issues Compatibility issues

December 15, 2022

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.rx1.xlarge.cg: 22110120221209f104211b2000000c07 Image ID of flavor physical.kg1.4xlarge.cg: 22110120221209f204221b200000046a 	<ul style="list-style-type: none"> System startup speed optimized. Shared storage 2.0 supports the obb directory. Audio/Video 3.0 supports multiple game controllers. 	<ul style="list-style-type: none"> Black screen issues during video playback The game controller icon cannot be canceled in some games. The unresponsive touch plug-in in the audio and video SDK in some scenarios System crashes caused by excessively long application package names Artifacts in some applications Compatibility issues The flow control mode for audio/video 3.0 encoding is crf, and the bit rate control is invalid.

November 04, 2022

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.rx1.xlarge.cg: 22100020221101f104211b2000000879 Image ID of flavor physical.kg1.4xlarge.cg: 22100020221101f204221b2000000eb3 	<ul style="list-style-type: none"> Video encoding on remote servers supported. Background process management supported. WebView upgraded to 99.0.4844.88. 	<ul style="list-style-type: none"> Compatibility issues

September 16, 2022

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.rx1.xlarge.cg: 22080220220916f104211b20000007a2 Image ID of flavor physical.kg1.4xlarge.cg: 22080220220916f204221b20000004dc 	N/A	<ul style="list-style-type: none"> Application crashes Servers froze in specific scenarios. Cloud phones reset failures in certain scenarios Abnormal running of cloud phones in certain scenarios

August 22, 2022

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> • Image ID of flavor physical.rx1.xlarge.cg: 22070320220817f104211b20000004e3 • Image ID of flavor physical.kg1.4xlarge.cg: 22070320220817f204221b20000000d8 	<ul style="list-style-type: none"> • Hardware decoding simulation fixed an issue where some games failed to play videos. • GPU driver upgraded. • The Wi-Fi name can be dynamically updated. 	<ul style="list-style-type: none"> • Blurry and crash issues in some applications • Frame freezing issues and OOM risks (fixed by optimizing SD card memory usage) • The obtained durations of video or audio content in TS format were incorrect. • Slow application installation (fixed by using the fast-install command) • The touch control was abnormal when the audio and video SDK was not operated for a long time. • Applications could not be installed in certain scenarios. • Photos could not be taken in certain scenarios. • Cloud phones failed to be reset due to an SD card D process.

May 31, 2022

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.rx1.xlarge.cg: 22050020220530f104211b2000001e3 (Type B touch control) 22050020220530f103210b2000000c4a (Type A touch control) Image ID of flavor physical.kg1.4xlarge.cg: 22040420220528f204221b20000009a3 (Type B touch control) 22040420220528f203220b2000000f05 (Type A touch control) 	<ul style="list-style-type: none"> Camera stability optimized. Image package downsized. 	Mesa-related issues

October 11, 2021

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.rx1.xlarge.cg: 21090120211009f104211b2000000714 (without stream pushing) 21090120211009f103210b2000000a3e (with stream pushing) Image ID of flavor physical.kg1.4xlarge.cg: 21090120211009f204221b20000006e7 (without stream pushing) 21090120211009f203220b2000000642 (with stream pushing) 	<ul style="list-style-type: none"> Media engine startup duration optimized. Sharing of game input boxes disabled. 	None

July 28, 2021

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.rx1.xlarge.cg: 21060320210721f104211b2000000a5b (without stream pushing) 21060320210720f103210b2000000ef5 (with stream pushing) Image ID of flavor physical.kg1.4xlarge.cg: 21060320210721f204221b20000004df (without stream pushing) 21060320210720f203220b2000000b48 (with stream pushing) 	<p>Sensitivity of the gyroscope simulation operation improved.</p>	<p>The default bit rate of gaming cloud phones was inconsistent with that described in the document.</p>

May 18, 2021

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.rx1.xlarge.cg: 21040220210515f104211b2000000a23 (without stream pushing) 21040220210515f103210b2000000d1e (with stream pushing) Image ID of flavor physical.kg1.4xlarge.cg: 21040220210515f204221b2000000c5d (without stream pushing) 21040220210515f203220b200000002a (with stream pushing) 	<ul style="list-style-type: none"> Gyroscope simulation supported. 	<ul style="list-style-type: none"> The camera occasionally displays a green screen or erratic display. The camera could not record videos occasionally. The Dead Cells game had no touch control.

March 31, 2021

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.rx1.xlarge.cg: 21020420210325f104211b200000f29 (without stream pushing) 21020420210325f103210b200000196 (with stream pushing) Image ID of flavor physical.kg1.4xlarge.cg: 21020420210325f204221b2000000e08 (without stream pushing) 21020420210325f203220b200000079a (with stream pushing) 	<ul style="list-style-type: none"> Audio interaction supported. 	<ul style="list-style-type: none"> Occasional loading issues when the screen was unlocked and the game screen was opened Occasional start failures of gaming cloud phones The screen did not respond but no message was displayed after the background switchover timed out.

March 09, 2021

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.rx1.xlarge.cg: 21020120210303f104211b2000000fdc (without stream pushing) 21020120210303f103210b2000000bc9 (with stream pushing) Image ID of flavor physical.kg1.4xlarge.cg: 21020120210303f204221b2000000fe9 (without stream pushing) 21020120210303f203220b200000041d (with stream pushing) 	<ul style="list-style-type: none"> H.264 encoding API being opened. You can dynamically set whether to use the input method of mobile phones. 	<ul style="list-style-type: none"> Frame rate stability issues in complex fighting scenarios of games

February 03, 2021

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> • Image ID of flavor physical.rx1.xlarge.cg: 21010020210128f104211b200000032f (without stream pushing) • Image ID of flavor physical.kg1.4xlarge.cg: 21010020210128f103210b20000002d4 (with stream pushing) • Image ID of flavor physical.kg1.4xlarge.cg: 21010020210128f204221b20000000c5 (without stream pushing) • Image ID of flavor physical.kg1.4xlarge.cg: 21010020210128f203220b2000000b5f (with stream pushing) 	<ul style="list-style-type: none"> • Huawei Launcher supported landscape orientation and real-time wallpaper refreshing. • You can use the input method of cloud phones to copy and paste data to the clipboard of a mobile phone. 	<ul style="list-style-type: none"> • A black screen was displayed for a long time after RTP stream pushing was disconnected and reconnected. • Noise in the RTP streaming audio • Occasional audio and video inconsistencies during RTP stream pushing • Issues caused by occasional packet loss or disorder during RTP stream pushing

December 27, 2020

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.rx1.xlarge.cg: 20110220201217f104211b20000007f (without stream pushing) 20110220201217f103210b20000004d8 (with stream pushing) Image ID of flavor physical.kg1.4xlarge.cg: 20110320201227f204221b200000051a (without stream pushing) 20110320201227f203220b2000000ce8 (with stream pushing) 	<ul style="list-style-type: none"> The server provides a keyboard and a handle to control cloud game interfaces. RTP supported. The server can automatically adjust the 1080p slice parameter based on the SDK access mode of the client. Memory and log printing optimized. 	<ul style="list-style-type: none"> The GPU timeout issue was resolved. Cloud phones were occasionally muted. Occasional game crashes when you exited the game and the text box was focused

November 12, 2020

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.rx1.xlarge.cg: 20100220201112f104111b20000009e5 (without stream pushing) 20100220201112f103110b2000000082 (with stream pushing) Image ID of flavor physical.kg1.4xlarge.cg: 20100220201112f204121b2000000083 (without stream pushing) 20100220201111f203120b2000000dfb (with stream pushing) 	<ul style="list-style-type: none"> Facial recognition for game login supported. The input method of a mobile phone can be started. Encoding parameter capped_crf supported. 	<ul style="list-style-type: none"> Touch issues of the 1080p cloud phones Slow loading of some games Fixed an issue where the permissions of some games changed after the pm clear command was executed.

October 13, 2020

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.rx1.xlarge.cg: 20090220201013f104111b20000079d (without stream pushing) Image ID of flavor physical.kg1.4xlarge.cg: 20090220201013f103110b200000d90 (with stream pushing) Image ID of flavor physical.kg1.4xlarge.cg: 20090220201013f204121b200000f47 (without stream pushing) Image ID of flavor physical.kg1.4xlarge.cg: 20090220201013f203120b2000000de7 (with stream pushing) 	<ul style="list-style-type: none"> The frame rate of static images can be set. Basic Service Set Identifier (BSSID) configuration supported. DPI modification supported. 	<ul style="list-style-type: none"> Artifacts in some games Occasional voice abnormalities in games

September 14, 2020

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.rx1.xlarge.cg: 20080220200914f104111b200000054a (without stream pushing) Image ID of flavor physical.kg1.4xlarge.cg: 20080220200914f103110b2000000c92 (with stream pushing) Image ID of flavor physical.kg1.4xlarge.cg: 20080220200915f204121b2000000e85 (without stream pushing) Image ID of flavor physical.kg1.4xlarge.cg: 20080220200914f203120b200000074c (with stream pushing) 	<ul style="list-style-type: none"> Remote control instructions supported. Gamepad instructions supported. 1080p specifications supported. 720p specifications supported. Touch control on all-screen display supported. New system signatures supported. 	<ul style="list-style-type: none"> The CPU occasionally failed to be bound to images of the physical.kg1.4xlarge.cg flavor. Applications were woken up in chain mode. The connection failed within 30 seconds after a reconnection failure.

August 01, 2020

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> • Image ID of flavor physical.rx1.xlarge.cg: 20070020200731f104111b2000000269 (without stream pushing) 20070020200801f103110b20000004b5 (with stream pushing) • Image ID of flavor physical.kg1.4xlarge.cg: 20070020200731f204121b2000000807 (without stream pushing) 20070020200801f203120b200000023b (with stream pushing) 	<ul style="list-style-type: none"> • Bidirectional channel supported. • Pinyin input method supported. • Resolution being adjustable. • Frame rate being adjustable. • E2E latency of gaming cloud phones optimized. 	<ul style="list-style-type: none"> • Probabilistic exceptions of stream pushing • Probabilistic exceptions of stream pushing when there is no certificate • Artifacts during the startup of Ember Storm

3 AOSP 9 Image Change History

3.1 AOSP 9 Cloud Phone Image Change History

NOTICE

The cloud phone images released in this section are official images and cannot be deployed on the same server as the test version AOSP 9 image that was released before January 10, 2022.

August 27, 2024

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none">Image ID for servers of all flavors: 24070320240823e001100a210000d98	N/A	<ul style="list-style-type: none">Occasional touch control errors

August 15, 2024

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none">Image ID for servers of all flavors: 24070120240809e001100a210000514	<ul style="list-style-type: none">The device-cloud engine supports screenshot outbound streams.	<ul style="list-style-type: none">Abnormal exits of DocumentsUIFreezing of Genshin Impact

July 31, 2024

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> ● Image ID for servers of all flavors: 24060420240724e001100a2100000a32 	<ul style="list-style-type: none"> ● File-level encryption supported. ● Vulkan supported. ● AOSP of cloud phones optimized to improve stability. ● Applications start faster. ● 2K-60 FPS video outbound streams supported. ● The time for the GPS injection data to take effect shortened. ● Vulkan enabled to support Adaptive Scalable Texture Compression (ASTC) textures. ● Preemption mode added to the device-cloud engine to support connections to cloud phones that have been connected by other clients. ● The device-cloud engine supports on-demand sensor data injection, satellite data injection (navigation scenarios), and 	<ul style="list-style-type: none"> ● Stopping of outbound stream stuck issue ● Noises in audio outbound streams ● Contacts and call history were lost during backup and restoration. ● Stability issues of the camera module ● Positioning accuracy ● Issue where the value of ro.build.version.sdk could not take effect immediately ● Black screen issues when the device-cloud engine was reconnected

Image ID	New Features	Bugs Fixed
	on-demand haptics.	

June 11, 2024

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID for servers of all flavors: 24040320240524e001100a21000004db 	<ul style="list-style-type: none"> Cloud phone start faster than before when a large number of shared applications are pre-installed. 	<ul style="list-style-type: none"> Positioning anomalies of map applications The PhoneId field in the heartbeat message reported by CAE was blank. Rendering anomalies of Fortnite, Night Crows, and LifeAfter Uninstalled shared applications still occupied disk space. Outbound stream failures in AUTO mode when the audio and video resolution exceeded 1080p

April 29, 2024

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID for servers of all flavors: 24030420240424e001100a2100000937 	<ul style="list-style-type: none"> The audio and video SDK supports on-demand synchronization of data from physical sensors to cloud phones. The audio and video SDK can synchronize vibration instructions from cloud phones to mobile phones. The audio and video SDK can process audio and video streams from an external encoding card. CAE upgraded to 24.3.0. 	<ul style="list-style-type: none"> Residual processes in specific scenarios Touch stability issues of cloud phones Rendering issues in some games Compatibility issues

March 22, 2024

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> ● Image ID for servers of all flavors: 24020020240227e001100a2100000f94 	<ul style="list-style-type: none"> ● The rendering module of AOSP optimized to improve the smoothness of some games. ● Multiple configuration files supported at the same time by shared applications. ● The audio and video SDK supports on-demand GPS data injection. ● The RX3 cloud phone servers support Vulkan games. ● The audio and video SDK optimized to reduce the first frame generation time. ● Reboot command introduced to restart a cloud phone. ● CAE upgraded to 23.12.2. 	<ul style="list-style-type: none"> ● audioServer exceptions in certain scenarios ● Abnormal outbound audio streams from the audio SDK in certain scenarios ● Uninstallation residual issues of shared applications ● Artifacts in some applications ● Scans of local images in incorrect directions ● VRAM usage of some applications ● System crashes in some scenarios ● Taking too long to stop outbound streams in some scenarios ● Touch exceptions in certain scenarios

December 22, 2023

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID for servers of all flavors: 23110320231221e001100a21000003f2 	<ul style="list-style-type: none"> The efficiency of outbound audio and video streams improved. CAE upgraded to 23.12.0. The video memory optimized to address frame freezing issues in some gaming scenarios. 	<ul style="list-style-type: none"> GPU memory leaks in specific scenarios Abnormal exits of some applications that were mistakenly killed by the Android Low Memory Killer Daemon (lmkd) process Abnormal recording of some applications ANR issues of some applications Outbound streams frozen in some scenarios

November 10, 2023

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID for servers of all flavors: 23100120231106e001100a21000001a5 	<ul style="list-style-type: none"> The initialization speed of outbound audio and video streams optimized. Audio and video touch control optimized. The mode of outbound audio and video streams changed to bit rate first. GPS stability improved. The ro.horizontal.screen attribute can be configured to the landscape mode by default. 	<ul style="list-style-type: none"> Reliability issues of shared applications Frame freezing during outbound streams when GPU hard encoding is used on the cloud phone server Stability issues of outbound audio and video streams Application crashes after users restored applications from backup in certain scenarios Stability issues of the Wi-Fi module

September 15, 2023

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> ● Image ID of flavor physical.rx1.xlarge: 23080220230912e101210a3100000483 ● Image ID of flavors physical.kg1.4xlarge.cp and physical.rx3.32xlarge.4: 23080220230912e201220a2100000872 	<ul style="list-style-type: none"> ● Restarting a cloud phone takes less time. ● Root permissions can be assigned to specific applications. ● Instant update of shared storage 2.0 applications supported and application data retained. ● Outbound stream stability of the cloud phone data plane SDK optimized. ● Verification of the ratio of the screen capture resolution to the primary screen resolution through the data plane SDK removed. ● The forced I-frame API of the data plane SDK was optimized to support the generation of I-frames in YUV or RGB format. ● More stable frame supplementation with the data plane SDK ● The display ratio of components in the output images through 	<ul style="list-style-type: none"> ● The open video API of the data plane SDK cannot be called consecutively.

Image ID	New Features	Bugs Fixed
	the data plane SDK optimized. <ul style="list-style-type: none"> The maximum bit rate of an outbound stream through the data plane SDK can be 40 Mbit/s. 	

July 24, 2023

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.rx1.xlarge: 23060320230721e101210a310000060e Image ID of flavors physical.kg1.4xlarge.cp and physical.rx3.32xlarge.4: 23060320230721e201220a21000009f3 	<ul style="list-style-type: none"> SD card storage performance optimized. (This feature depends on the OS. You need to restart the server to upgrade the OS.) Texture compression switch added. Data plane (audio, video, and touch access) SDK 5.0 released. 	<ul style="list-style-type: none"> It takes a long time to disable virtual devices in the SDK. When the SDK is used, no frame is generated for static images. OOM issues in specific scenarios fixed by optimizing the memory management service (cph_performance) Compatibility issues

July 11, 2023

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.rx1.xlarge: 23060020230626e101210a3100000760 Image ID of flavors physical.kg1.4xlarge.cp and physical.rx3.32xlarge.4: 23060020230626e201220a210000083c 	None	<ul style="list-style-type: none"> Stability issues of outbound audio and video streams Artifacts occurred when the first frame is encoded by an external encoding server Compatibility issues

June 07, 2023

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.rx1.xlarge: 23050020230601e101210a3100000542 Image ID of flavors physical.kg1.4xlarge.cp and physical.rx3.32xlarge.4: 23050020230601e201220a210000050c 	<ul style="list-style-type: none"> CAE integrated The system disk is read-only. The image is not rooted. 	<ul style="list-style-type: none"> Touch smoothness issues Compatibility issues

May 09, 2023

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.rx1.xlarge: 23040120230505e101210a3000000e5a Image ID of flavors physical.kg1.4xlarge.cp and physical.rx3.32xlarge.4: 23040120230505e201220a200000080c 	<ul style="list-style-type: none"> IPv6 supported. Traffic outgoing of a cloud phone server optimized to use less CPU and GPU resources. 	<ul style="list-style-type: none"> Artifacts in some applications System service exceptions in certain scenarios The uiautomator dump command was abnormal. Compatibility issues

March 15, 2023

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.rx1.xlarge: 23010220230215e101210a30000005e8 Image ID of flavors physical.kg1.4xlarge.cp and physical.rx3.32xlarge.4: 23010220230215e201220a200000098d 	None	<ul style="list-style-type: none"> Reliability issues for shared storage 2.0 Sensor stability issues uiautomator supported. Compatibility issues

December 15, 2022

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.rx1.xlarge: 22110120221209e101210a3000000b02 Image ID of flavor physical.kg1.4xlarge.cp: 22110120221209e201220a20000005a6 	<ul style="list-style-type: none"> WebView upgraded to 99.0.4844.88. System startup speed optimized. Native AOSP security patch integrated. Audio/Video 3.0 supports multiple game controllers. Shared storage 2.0 supports the obb directory. 	<ul style="list-style-type: none"> Unresponsive touch plug-in in the audio and video SDK in some scenarios Artifacts in some applications The flow control mode for audio/video 3.0 encoding was crf, and the bit rate control was invalid.

November 04, 2022

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.rx1.xlarge: 22100020221101e101210a3000000de2 Image ID of flavor physical.kg1.4xlarge.cp: 22100020221101e201220a20000001a2 	<ul style="list-style-type: none"> Video encoding on remote servers supported. Background process management supported. Startup speed optimized. Storage 2.0 supported. 	<ul style="list-style-type: none"> Compatibility issues

September 16, 2022

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.rx1.xlarge: 22080220220915e101210a3000000564 Image ID of flavor physical.kg1.4xlarge.cp: 22080220220915e201220a20000002b3 	N/A	<ul style="list-style-type: none"> Servers froze in specific scenarios. Cloud phones reset failures in certain scenarios Abnormal running of cloud phones in certain scenarios

August 22, 2022

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> ● Image ID of flavor physical.rx1.xlarge: 22070320220817e101210a3000000dfb ● Image ID of flavor physical.kg1.4xlarge.cp: 22070320220817e201220a200000029f 	<ul style="list-style-type: none"> ● Network positioning capability provided. ● The Wi-Fi name can be dynamically updated. 	<ul style="list-style-type: none"> ● The input method keyboard cloud not pop up in certain games. ● Frame freezing issues and OOM risks (fixed by optimizing SD card memory usage) ● The touch control was abnormal when the audio and video SDK was not operated for a long time. ● Applications could not be installed in certain scenarios. ● Cloud phones failed to be reset due to an SD card D process. ● Some applications crashed.

June 20, 2022

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.rx1.xlarge: 22050020220530e101210a300000012f Image ID of flavor physical.kg1.4xlarge.cp: 22050020220530e201220a2000000104 	<ul style="list-style-type: none"> Audio and video 3.0 SDK integrated. The system language can be dynamically changed on the CLI. 	<ul style="list-style-type: none"> Compatibility issues Artifacts in some scenarios The space of the system disk was full. Camera crashes in certain scenarios

January 10, 2022

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.rx1.xlarge: 21120220220105e101110a3000000d6b Image ID of flavor physical.kg1.4xlarge.cp: 21120220220105e201120a2000000ed2 	<ul style="list-style-type: none"> Graphics processing optimized. Permanent storage of Logcat logs 	<ul style="list-style-type: none"> The am restart command was abnormal. The dumpsys display command was abnormal.

3.2 AOSP 9 Image Change History of Gaming Cloud Phones

November 10, 2023

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> • Image ID for servers of all flavors: 23100120231110e003101b2100000cab 	<ul style="list-style-type: none"> • The initialization speed of outbound audio and video streams optimized. • Audio and video touch control optimized. • The mode of outbound audio and video streams changed to bit rate first. • GPS stability improved. • The ro.horizontal.screen attribute can be configured to the landscape mode by default. 	<ul style="list-style-type: none"> • Reliability issues of shared applications • Frame freezing during outbound streams when GPU hard encoding is used on the cloud phone server • Stability issues of outbound audio and video streams • Application crashes that happened after users use backups to restore applications in certain scenarios • Stability issues of the Wi-Fi module

September 15, 2023

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> • Image ID of flavors physical.kg1.4xlarge.cp and physical.rx3.32xlarge.4: 23080220230912e203221b21000004ce 	<ul style="list-style-type: none"> • Restarting a cloud phone takes less time. • Root permissions can be assigned to specific applications. • Instant update of shared storage 2.0 applications supported and application data retained. • Outbound stream stability of the cloud phone data plane SDK optimized. • Verification of the ratio of the screen capture resolution to the primary screen resolution through the data plane SDK removed. • The forced I-frame API of the data plane SDK was optimized to support the generation of I-frames in YUV or RGB format. • More stable frame supplementation with the data plane SDK • The display ratio of components in the output images through 	<ul style="list-style-type: none"> • The open video API of the data plane SDK cannot be called consecutively.

Image ID	New Features	Bugs Fixed
	<p>the data plane SDK optimized.</p> <ul style="list-style-type: none"> The maximum bit rate of an outbound stream through the data plane SDK can be 40 Mbit/s. 	

July 24, 2023

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavors physical.kg1.4xlarge.cp and physical.rx3.32xlarge.4: 23060320230721e203221b2100000ac3 	<ul style="list-style-type: none"> SD card storage performance optimized. (This feature depends on the OS. You need to restart the server to upgrade the OS.) Texture compression switch added. Data plane (audio, video, and touch access) SDK 5.0 released. 	<ul style="list-style-type: none"> It takes a long time to disable virtual devices in the SDK. When the SDK is used, no frame is generated for static images. OOM issues in specific scenarios fixed by optimizing the memory management service (cph_performance) Compatibility issues

July 11, 2023

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavors physical.kg1.4xlarge.cp and physical.rx3.32xlarge.4: 23060020230626e203221b2100000813 	None	<ul style="list-style-type: none"> Stability issues of outbound audio and video streams Artifacts occurred when the first frame is encoded by an external encoding server Compatibility issues

June 07, 2023

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavors physical.kg1.4xlarge.cp and physical.rx3.32xlarge.4: 23050020230601e203221b210000015a 	<ul style="list-style-type: none"> CAE integrated The system disk is read-only. The image is not in the root state. 	<ul style="list-style-type: none"> Touch smoothness issues Compatibility issues

May 09, 2023

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavors physical.kg1.4xlarge.cp and physical.rx3.32xlarge.4: 23040120230505e203221b20000001bf 	<ul style="list-style-type: none"> IPv6 supported. Traffic outgoing of a cloud phone server optimized to use less CPU and GPU resources. 	<ul style="list-style-type: none"> Artifacts in some applications System service exceptions in certain scenarios The uiautomator dump command was abnormal. Compatibility issues

March 15, 2023

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavors physical.kg1.4xlarge.cp and physical.rx3.32xlarge.4: 23010220230216e203221b20000001cd 	None	<ul style="list-style-type: none"> Reliability issues for shared storage 2.0 Sensor stability issues uiautomator supported. Compatibility issues

December 15, 2022

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.kg1.4xlarge.cg: 22110120221209e203221b20000002f5 	<ul style="list-style-type: none"> WebView upgraded to 99.0.4844.88. System startup speed optimized. Native AOSP security patch integrated. Audio/Video 3.0 supports multiple game controllers. Shared storage 2.0 supports the obb directory. 	<ul style="list-style-type: none"> The unresponsive touch plug-in in the audio and video SDK in some scenarios Artifacts in some applications The flow control mode for audio/video 3.0 encoding is crf, and the bit rate control is invalid.

November 04, 2022

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.kg1.4xlarge.cg: 22100020221101e203221b2000000489 	<ul style="list-style-type: none"> Video encoding on remote servers supported. Background process management supported. Startup speed optimized. Storage 2.0 supported. 	<ul style="list-style-type: none"> Compatibility issues

September 16, 2022

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.kg1.4xlarge.cg: 22080220220916e203221b200000073f 	N/A	<ul style="list-style-type: none"> Servers froze in specific scenarios. Cloud phones reset failures in certain scenarios Abnormal running of cloud phones in certain scenarios

August 22, 2022

Image ID	New Features	Bugs Fixed
<ul style="list-style-type: none"> Image ID of flavor physical.kg1.4xlarge.cg: 22070320220817e203221b20000009fd 	<ul style="list-style-type: none"> Network positioning capability provided. The Wi-Fi name can be dynamically updated. 	<ul style="list-style-type: none"> The input method keyboard cloud not pop up in certain games. Frame freezing issues and OOM risks (fixed by optimizing SD card memory usage) The touch control was abnormal when the audio and video SDK was not operated for a long time. Applications could not be installed in certain scenarios. Cloud phones failed to be reset due to an SD card D process. Some applications crashed.

May 31, 2022

Image ID	New Features	Bugs Fixed
Image ID of flavor physical.kg1.4xlarge.cg: 22050020220530e203221b20000009d5	First release	First release