

# Cloud Class Solution Cookbook (V1.0)

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### Preface

This article provides a systematic approach to identifying and remedying problems that may arise as you use your cloud class product over a period of time. This guide is not intended to replace configuration guide or to be an all-inclusive guide for every application. Rather, it is an attempt to provide you with the knowledge and skills necessary to correct the most common issues that you may encounter.

This article introduces the basic concepts, methodology, and general troubleshooting guidelines for problems that may occur when you configure and use cloud class product.

# Audience

- Network Engineers
- Network Administrator

# **Obtain Technical Assistance**

- Ruijie Networks Websites : <u>http://www.ruijienetworks.com</u>
- Ruijie Service Portal : <u>http://caseportal.ruijienetworks.com</u>

Welcome to report error and give advice in any Ruijie manual to Ruijie Service Portal

# **Revision History**

Date	Change contents	Reviser
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# 2 Preface

With the maturation of the cloud computing technology and the increase of customer problems, fat access points (APs) are not the most ideal solution for the PC equipment room. The RG-RCC Solution is a Ruijie homegrown product that is committed to resolving management problems occurring in conventional traditional computer classrooms, and effectively enhancing the user experience. Ruijie Cloud Class (RCC) is a new-generation computer classroom construction solution developed according to the ideas of continuous integrating and optimizing devices in the campus equipment rooms, in combination with the actual situations of numerous general education schools. The deployment of only one RCD Server in each classroom can provide dozens of Cloud Desktops that outperform common PCs. Students can experience vivid cloud desktop environment from the Thin Clients served by these Cloud Desktops. The RCC provides a variety of teaching system images based on courses and closely integrates cloud technologies and education scenarios, thereby achieving centralized teaching, intelligent management, and simple maintenance, and bringing the computer classroom into the cloud era.

The RG-RCC solution consists of the following product components:

- RG-RCD Server: It is a high-performance cloud desktop server. One RCD Server supports 30–60 concurrent cloud desktops. RCD Servers can be independently managed through the Web management UI.
- RG-Rain Thin Client: It is the Thin Client used by a student. The Thin Client is embedded with the operating system (OS), ClassManager\_Student, and ClassManager Rainbow. The Thin Client is interconnected to the RCD Server through a 1000M network and displays the teaching desktop pushed by the RCD Server. Currently, there are various models of Thin Clients such as Rain100 and Rain200.
- RG-ClassManager\_Teacher: It is teaching management software used by teachers. It provides various functions such as course preparation, class instruction, class discipline, class interaction, exercise guidance, and review and testing.

This document, based on typical case sets, describes operation steps and precautions of each functional module by scenario in the implementation and configuration of the RCC solution. Network engineers check the hardware and software according to requirement information collected prior to network deployment, and select appropriate network scenarios and product deployment modes that cater to the requirements. After the deployment, network engineers need to check the running of the device.

The deployment includes the following steps:

- 1. Preparations before deployment
- 2. Typical scenario selection
- 3. Scenario and function selection
- 4. Function configuration
- 5. Function configuration commissioning
- 6. Device running check after deployment

# 3 Deployment Strategy (Required)

#### I. Deployment Process

- 1. Preparations (including network address planning)
- 2. Installation and racking (including the racking of the RCD Servers, Rain Thin Clients, and switches and software installation)
- 3. Software upgrade
- 4. Software configuration and image creation
- 5. Data synchronization (mandatory in cluster mode)

#### II. Key Upgrade Steps

If you need to upgrade the version that has been deployed in classrooms, back up data of the RCD Server (mainly RCD data, including image files and database data).

#### Note:

- 1. The RCD Server upgrade using an ISO file takes about 25–30 minutes. Please wait patiently.
- 2. Because the hard disk controller of the Cloud Desktop is upgraded in V3.0, all images need to be edited using the Admin-Tool when the RCD Server is upgraded from an earlier version to V3.0. The Guest-Tool is automatically upgraded during image editing. You can normally use the images only after the new hard disk driver is installed. You must restart the system to access the new images and then install the Guest-Tool to validate the functions.

The following figure shows the procedure for upgrading the RCD Server to V3.0.



#### **III. Precautions**

1. If a customer uses the convergent computing function, communicate with the customer to obtain the software and then upgrade the version, and ensure that the upgrade time is sufficient (because the software installed in the Rain system needs to be recovered).

- Generally, version rollback (rollback between major versions is not supported) is performed when the upgrade is abnormal. Do not perform version rollback in normal situations. Especially if you use the current version for a long period of time, version rollback may cause anomalies to cooperative products such as Rain.
- 3. The entrances for image distribution vary with hardware architectures of the Rain Thin Clients. Simply, the Rain100 and Rain200 adopt the x86 hardware architecture and use the Windows or Linux OS as the underlying system. Therefore, they adopt the iPXE technical solution. The Rain100S adopts the ARM hardware architecture and uses the Android OS as the underlying system. Therefore, the Rain100S adopts the OTA technical solution.
- 4. You can select the multicast or unicast mode for image distribution by the iPXE and OTA according to the network conditions. If the network condition is good (1000M switch + 1000M network cable), the multicast mode is recommended; if the network condition is poor or the multicast mode is unavailable, the unicast mode is recommended. If you have no idea of the network condition, use the multicast mode.
- 5. Authorization must be performed after the version upgrade. Otherwise, the ClassManager Rainbow is valid for 45 days by default. Then, the software becomes unavailable upon expiration.

# **4** Deployment Preparation

### 4.1 Information Collection

The RCC product relies on the infrastructure of the computer classrooms and the campus network. Therefore, before product deployment, learn about the situation of the equipment room, cable layout in classrooms, and network topology, to determine the project deployment schedule.

#### I. Network Topology

Single-classroom cluster deployment:



Multi-classroom cluster deployment:



**II. Device List** 

Device	Qty	Description	Necessary
RG-RCD 6000	1		$\checkmark$
RG-Rain 100	60		$\checkmark$
RG-Class Manager	1		$\checkmark$
Gigabit Switch	2		$\checkmark$
Teacher PC	1		$\checkmark$
Monitor, Mouse, etc	60		$\checkmark$
Cables	Some		$\checkmark$
Screwdriver	1		
Knife	1		
USB	some		$\checkmark$

Before product deployment, check whether the device list is complete. The following table lists devices and tools used in the single-classroom deployment.

#### **III. Software Checking**

- 1. Clarify customer requirements, and check the device list and software version.
- 2. Determine the software used in current teaching and requirements for the version of the teaching software.
- 3. Before deployment, confirm with teachers about the list of software versions to be installed. It is recommended that the software be provided by the customer. Help the customer learn how to create OS images and install software.
- 4. Get gigabit switches and Category 6 network cables ready. Ensure that keyboard and mouse suites with USB ports are configured for Thin Clients.
- 5. Check whether the customer uses teaching management software such as Red Spider and Mythware. If the customer uses the RG-ClassManager, confirm the common functions used by the customer, such as screen broadcast and document delivery.
- 6. Get a separate PC ready for installing the RG-ClassManager.

### 4.2 Network Planning

### 4.2.1 Network Planning for the Cloud Class

1. Check the existing network environment and IP address segment planning of the equipment room. It is recommended that an independent Class-C network segment be configured for each classroom.

2. Configure two IP addresses for each Thin Client (one for Thin Client and one for Cloud Desktop), two IP addresses for each RCD Server, and one IP address for each ClassManager\_Teacher.

3. Clarify the planned gateway, subnet mask, and DNS server of the school.

Network address policy: Cloud Desktop Campus Network and Thin Client Campus Network (This network address policy is recommended. You can configure it on the configuration wizard of the RCD Server management screen.)

For example, for a classroom containing 60 Thin Clients, you can allocate network segment 192.168.1.0/24 (IP addresses in this network segment can be used to directly access the network) to this classroom.

IP network segment for the Rain Thin Client: 192.168.1.11–192.168.1.70

Virtual IP network segment for the Cloud Desktop: 192.168.1.111–192.168.1.170

RCD Server: master IP address: 192.168.1.100; slave IP address: 192.168.1.101

ClassManager\_Teacher: 192.168.1.10

Gateway IP address: 192.168.1.1; mask: 255.255.255.0; DNS: 192.168.0.254 (subject to the actual configurations)

### 4.2.2 Deployment Planning for the Cloud Class

In local deployment mode, a single RCD6000 supports 60 Thin Clients only in one classroom. If there are more than 60 Thin Clients in one classroom, you need to configure additional RCD Servers.

In local stack mode, more Thin Clients can be configured in a single classroom and each Thin Client has higher performance. Currently, there are three models of RCD Servers: RCD3000, RCD4500, and RCD6000, which can be stacked together.

In cluster deployment mode, multiple RCD Servers can be deployed in a cluster to serve multiple classrooms.

#### For example:

Scenario 1: One classroom has 90 Thin Clients. You need to configure two RCD6000 Servers as a cluster to work in active/standby mode, to satisfy teaching requirements.

Scenario 2: There are two classrooms and each classroom has 90 Thin Clients. You can configure three RCD6000 servers in a centralized manner or set up two new classrooms.

Scenario 3: A classroom can be deployed with 60 Thin Clients in the case of standard configuration. If high-performance virtual Cloud Desktops (2 GB memory) are used, one RCD6000 supports 30 Thin Clients at most. You can deploy two RCD Servers in stack mode or cluster mode, to support 60 high-performance Thin Clients.

# 5 Deployment

### 5.1 Installation and Configuration

#### 5.1.1 Installing the RCD Server

I. Network Topology



#### II. Topology Description

This topology is applicable to the new deployment scenario of the RG-RCC solution and includes the RG-RCD Server, RG-ClassManager, and RG-Rain Thin Client.

#### III. Key Steps

1. Deploy the RCD Server.

Key configuration points: set IP addresses, create Cloud Desktop, and configure the network mode.

2. Deploy the Rain Thin Client.

Key configuration points: set an IP address for the Thin Client and distribute images in PXE mode.

3. Deploy the teaching PC.

Key configuration points: install the RG-ClassManager and complete deployment in one-click mode.

4. Manage courses.

Key configuration point: create images.

5. Verify functions.

Key verification points: start a class, end a class, broadcast the screen, and broadcast a video.

#### 5.1.2 Installing the ClassManager\_Teacher PC

#### I. Installation Description

#### Minimum hardware configuration:

- 1. ClassManager\_Teacher PC:
- CPU: dual-core processor at 2.0 GHz or higher
- Memory: 2 GB or higher
- Hard disk: 128 GB or higher
- Accessories: display, mouse, and keyboard
- 2. Thin Client
- Accessories: Thin Clients supporting Ruijie Cloud Class, mouse, display, and keyboard
- 3. Workspace server

The workspace is used for account management, class management and homework management. The workspace server can be deployed on an RCD Server (recommended) or an independent server. After RCD V2.1 is installed, the workspace will be automatically installed.

Minimum configuration of the independent server (for only one classroom)

- CPU: dual-core processor at 2.0 GHz or higher
- Memory: 2 GB or higher
- NIC: 100 Mbit/s or higher
- Hard disk: 256 GB or higher

#### Software configuration:

OS of the ClassManager\_Teacher and ClassManager\_Student:

Note: The ClassManager\_Teacher and ClassManager\_Student provide full functions and support 32-bit and 64-bit OSs (64-bit images are supported since V2.1).

Key configuration points:

1. After installing the ClassManager\_Teacher on the teacher PC, authorize the software and install the workspace server as required.

2. If the voice broadcast function available in V3.0 is used, ensure that the OS is Windows 7, Windows 10 Enterprise Edition, Windows 8, Vista, or a higher version. Other OSs are not supported.

#### II. Installing the RG-ClassManager\_Teacher

1. By default, the ClassManager\_Teacher is integrated into the login page of the RCD Server. You can directly download and install the software.



2. Click **License** and read the license agreement of the software.

ClassManager Teacher Client Installation
Install RCC
■ I have read and accepted the License / Install Student Client Install
<b>I</b>
ClassManager Teacher Client Installation
ClassManager Teacher Client Installation Welcome > Install > Finish RG-ClassManager Rainbow Software License Agreement
ClassManager Teacher Client Installation Welcome > Install > Finish RG-ClassManager Rainbow Software License Agreement Grant of License
ClassManager Teacher Client Installation Welcome > Install > Finish RG-ClassManager Rainbow Software License Agreement Grant of License Ruijie Networks grants to you the License to use the Software. Except as
ClassManager Teacher Client Installation Welcome > Install > Finish RG-ClassManager Rainbow Software License Agreement Grant of License Ruijie Networks grants to you the License to use the Software. Except as expressly authorized herein, you SHALL NOT: USE, COPY, MODIFY,
ClassManager Teacher Client Installation Welcome > Install > Finish RG-ClassManager Rainbow Software License Agreement Grant of License Ruijie Networks grants to you the License to use the Software. Except as expressly authorized herein, you SHALL NOT: USE, COPY, MODIFY, LEASE, or TRANSFER all or any portion of the Software.

3. Select I have read and accepted the license agreement and click Install.

Set IP addresses for the RCD Server and workspace server, to ensure that the teacher PC can successfully connect to the RCD Server and workspace server. In addition, you can adopt the default installation path or click **Change** to select the required installation directory.

ClassManager Teacher Client Installation
Server
RCD Server IP:       172.18.158.201         Installation Path       Available space of selected driver 11.6 GB
C:\Program Files (x86)\RCC_ClassManager_Teach Change
CM Autorun at Startup
Previous Next Cancel

Note: if the workspace is deployed locally, no need to configure the workspace server in this step.

#### Note:

- If the deployment mode is Cloud Desktop Campus Network and Thin Client Campus Network, the RCD Server IP is the LAN1 ip address, if the deployment mode is Cloud Desktop Campus Network and Thin Client Private Network or Cloud Desktop Private Network and Thin Client Private Network, the RCD Server IP address is the WAN ip address.
- 2) The ClassManager and workspace can be used independently. Generally, the workspace server uses the RCD Server. In V2.1 and later versions, after the ClassManager is installed, the workspace is automatically installed. If the workspace is installed on an independent server, you need to enter a correct IP address in System > Workspace> Parameter on the RCD Server web UI.
- 3) In cluster mode, both the master and slave RCD Servers can provide functions of the workspace server, depending on the RCD Server where the workspace server is installed. The workspace server uses the IP address of the RCD Server where the workspace server is installed.
- 4. After **RCD Server IP** is correctly set and a correct installation path is selected, click **Next**. The system starts to install the software. After the software is installed, the system automatically jumps to the finish screen.

ClassManager Teacher Client Installation				
$\underbrace{()} \rightarrow \rightarrow \rightarrow \underbrace{()}_{II}$				
Initializing installation environment Cancel				
5. Finish.  ClassManager Teacher Client Installation  Welcome > Install > Finish				
Installation complete				
Finish				

6. After the software is installed, some functions are available only after the PC is restarted. As shown in the following figure, click **Yes**. You can normally use the ClassManager\_Teacher after the PC is restarted.



**Note:** If the ClassManager\_Teacher fails to scan Thin Clients after upgrade but can start or end a class, you can set the firewall to permit the ClassManager\_Teacher. Then, all functions become available.

#### III. Authorizing the RG-ClassManager Rainbow

Apply for an authorization file by referring to the Appendix "ClassMananger Software Authorization".

Log in to the RCD Server. Query and export the hardware SN, and make a license file in the back-end PA system (see 6.2.1

Generating the License File Using an Authorization Code below). Then, on the management page, click **Import license** to import the license file.

Ruijie Cloud Class				Onfig Wizard	(?) Help (i) About
🛞 Home Page	License			_	Display SN Export SN
🕲 Image	Name				Info
	RCC-CM-NUM-7000004229142963.lic	Valid	64849Minute(s)	70	Details
	RCC-CCR-NUM- 05A00000093207987.lic	Valid	129600Minute(s)	70	Details
RCD Server	RCC-CM-NUM-6000000211333598.lic	Valid		×	Details
💬 Message		G1KD	53N000063	-	
System 🔹			ок	_	
<ul> <li>Network Setting</li> </ul>					
●System Setting					
• License					
• Workspace					

Import License		×
<ul> <li>Make sure that</li> <li>Incorrect time</li> </ul>	t the system time is sta may affect the license	ndard time. validity period.
- Import License		
	Cancel	

Ensure that the license file is successfully imported.

#### IV. Installing the RG-ClassManager Rainbow Workspace

Workspace is a component of the ClassMananger Rainbow. It can be installed on an independent server or on an RCD Server. If the workspace serves a large number of students (exceeding 200), it is recommended that the workspace be installed on an independent server.

To install the workspace on the RCD Server, do as follows:

1. Log in to the RCD Server as an administrator. Note: In RCD V3.0 or later versions, the workspace is automatically installed (the latest installation package is embedded into the new version).

Ruijie Cloud Class	$\bigcirc$	🔅 Config Wizard	? Help	i Abou
lome Page	Workspace		Upload	Refresh
🕲 Image	Name RG-WorkSpace Server V3.1 R1.11.tar.oz			
Classroom				
RCD Server	KG-WORSpace_server_v5.0_K1.14.tal.gz			
Message				
System 🔺				
Network Setting				
<ul> <li>System Setting</li> </ul>				
● License				
Workspace				



2. Refresh the page and click Install. Note: To use the upload function, install the Admin-Tool first.

3. After uploading the new upgrade package and clicking **Refresh**, click **Install** to install the workspace.

Filename

Filesize Filetype

Last modified

0

Permissio...

Last modified

Filesize Filetype

Filename

Note: please make sure the teacher PC can ping RCD server LAN1 ip address before start the admin tool.

#### 5.1.3 Installing the Thin Client

# I. Racking the RG-Rain Thin Client

Unpack the chassis and connect the power cable, keyboard, mouse, display, and network cable. Ensure that all devices are connected to a 1000M switch.

This section uses the Rain100 as an example to describe how to rack the RG-Rain Thin Client. The installation methods of other Thin Clients are basically the same as the installation of the Rain100. For details, download the user manuals of related devices at Ruijie official website.

1. Install the device base.







2. Connect the power cable.



3. Connect the display, keyboard, and mouse.





4. Connect the network cable.



5. Press the power button to start the device.

#### II. Configuring the RG-Rain Thin Client

You can configure Rain Thin Clients in two modes: configure them one by one or configure them in one-click mode (this mode is supported in V1.0.9 and later versions. For details, see "Typical Deployment Schemes – One-click Deployment").

The following describes how to configure the Rain Thin Client one by one:

- 1. Start the Rain Thin Client. The RCC logo page is displayed.
- 2. The Rain Thin Client fails to connect to the RCD Server at your first login because no network information is configured.

Ruije Cloud Class	
	<ul> <li>Failed to connect the RCD server.</li> <li>Check the network.</li> <li>server configuration.</li> </ul>
	Reconnect
	Services Settings About ruijie network © 2016

3. Click **Configure** in the upper right corner to access the configuration page.

Basics Resolution Sound X
Basic Information
PC Name: rcd
RCD Server IP: 172.18.136.183
Network Configuration:      Failed to obtain NIC information.
<ul> <li>Obtain an IP address automatically</li> </ul>
O Use the following IP address:
IP Address: 192.168.75.128
Subnet Mask: 255.255.255.0
Default Gateway: 192.168.75.2
O Obtain the DNS server address automatically.
<ul> <li>Use the following DNS server address:</li> </ul>
DNS: 114.114.114
Alternate DNS:
Save
()
Services Settings About

#### Set the parameters as follows:

- The default password for accessing the configuration page is **ruijie.com**.
- Generally, you do not need to modify the PC name. If you change the PC name, you need to restart the Thin Client.
- **RCD Server IP** is the master IP address of the RCD Server.
- Click Obtain an IP address automatically or configure a static IP address as the IP address of the Thin Client.
- Note: If the switch is a NMS-type switch and the DHCP network segment has been configured for the RCD Server, it is recommended to click **Obtain an IP address automatically**. For a non-NMS-type switch, it is recommended to set a static IP address for the Thin Client. Otherwise, IP addresses allocated to Thin Clients in multiple classrooms may be disordered.

4. After the configuration is complete, connect the Thin Client to the RCD Server. If a course is available, a page as shown in the following figure is displayed:



#### 5.1.4 Installing Images

#### I. Installation Description

By default, there is no available image in the RCD Server. Generally, you need to create images by using the ISO installation CD-ROM of the OS and the SN.



You can also directly access the image page.

Before installing images, ensure that the following operations are completed:

- 1. Install the Admin-Tool (download the software from the image page at your initial use, install the software, exit the browser, and log in to the system again).
- 2. Obtain the OS ISO CD-ROM (Windows, CentOS/Ubuntu) for image creation or obtain Ruijie demo images (The demo images are in the base format and must be deleted within 24 hours after download).
- 3. Enter share directory D disk, obtain the ClassManager\_Student (install it on the Cloud Desktop image).
- 4. Obtain various types of professional software to be installed in images (such as Office and Photoshop).

**Note:** Currently, Supported image systems include Windows XP, Windows 7, Windows 8, Windows 10, Windows 2003/2008/2012/Vista (Windows 8 is not recommended because it does not support the redirection function).

The RCD server and supports 32-bit and 64-bit OSs (the RCD supports 64-bit images since V2.1).

#### Key installation steps:

- 1. Upload the OS ISO image file (such as win7EnterpriseX64cn.iso) to the image directory on the RCD Server.
- 2. Create an image and set the parameters.
- 3. Completely install the OS.
- 4. Install the RCC-Guest Tool to ensure that the Cloud Desktop driver is correctly identified.
- 5. Install the ClassManager\_Student and various types of professional software.
- 6. Power off the device. Then, the image is created completely

**Note:** Because the hard disk controller of the Cloud Desktop is upgraded in V3.0, all images need to be edited using the Admin-Tool when the RCD Server is upgraded from an earlier version to V3.0. The Guest-Tool is automatically upgraded during image editing. You can normally use the images only after the new hard disk driver is installed. You must restart the system to access the new images and then install the Guest-Tool to validate the functions.

#### **II. Installing the Images**

To create an image, do as follows:

Step 1: Download the Admin-Tool. Choose **Image** on the navigation tree, and select **Image File** from the **Upload** drop-down list box.



Upload the OS ISO file or the demo image base file to the RCD Server.

🗑 RCD Server Shared Directory - Connected - RuijieFTP				×					
local site:			•	remote site:	/				•
Filename	Filesize Filetype	Last modified		Filename	Filesize	Filetype	Last modified	Permissio	0\

Step 2: Create an image and set image parameters.

Add Image Template			$\times$	
Image Name :				
* Image File Name :		1) .base		
* ISO :	~			
* OS :	~			
Enable :	Disabled image is not display	yed on Thin Clients.		
* Desktop Backup :	Recommended for Exams			
Tips : Standard: For Internet surfi High: For VM running, grap	ng, work and study. whics rendering and code compling.			
The number of supported Cloud Desktops varies with different RCD Servers as follows: RCD6000: 60 Cloud Desktops recommended and 65 maximum for standard mode; 30 Cloud Desktops recommended for high mode. RCD6000 V2 : 60 Cloud Desktops recommended for standard mode; 30 Cloud Desktops recommended for high mode. RCD3000&RCD3000 V2: 30 Cloud Desktops recommended and 35 maximum for standard mode; 15 Cloud Desktops recommended for high mode. RCD4500: 45 Cloud Desktops recommended and 48 maximum for standard mode; 22 Cloud Desktops recommended for high mode. RCD4500: V2: 45 Cloud Desktops recommended and 50 maximum for standard mode; 22 Cloud Desktops recommended for high mode. RCD4500 V2: 45 Cloud Desktops recommended and 50 maximum for standard mode; 22 Cloud Desktops recommended for high mode. RCD4500 V2: 45 Cloud Desktops recommended and 50 maximum for standard mode; 22 Cloud Desktops recommended for high mode. RCD4500 V2: 45 Cloud Desktops recommended and 50 maximum for standard mode; 22 Cloud Desktops recommended for high mode. RCD4500 V2: 45 Cloud Desktops recommended and 50 maximum for standard mode; 22 Cloud Desktops recommended for high mode. Before adding or editing images, install <u>Admin-Tool</u>				
	ОК	Cancel		

**Image Name**: The image name contains more than three characters. It cannot contain special characters except the underline (\_).

**ISO**: Select the image file uploaded by the Admin\_Tool. Ensure that the capacity of the image file is consistent with that of the uploaded image file. Otherwise, anomalies may occur.

**OS**: The displayed icon varies with the OS type.

Edit Image Template			×
* Image Name: win7标准	模板	×	^
Image File Name:win7标准	模板.base		
* OS : Windo	ws 7	~	
Enable : 🗹 😗 👔	Disabled image is not di	splayed on Thin	Clients.
* Desktop Backup : 📃 Rec	commended for Exams		
* System Config : 🔘 Star	ndard(Recommended)	🔵 High 🧿 Cu	stom
* CPU Count •	4	~	
* Memory(MB) :	2048	\$	
* Hard Disk Space(GB)	40	\$	
Used(GB) :	26 Refresh		
* CPU Type •			Default is recommended.
	host	~ 🕧	Contact technical support before
corecconfig			cnanging it.
coresconing.	Default is recor changing it.	nmended. Conta	ict technical support before

**Enable**: When you select this option, disabled images is not displayed on Thin Clients. In open mode, students can select the OS for login for testing.

#### System Config:

1) When you set System Config to Standard (recommended, supporting 60 Cloud Desktops), the system displays different default configurations when you move the cursor here.

In standard mode, the number of Cloud Desktops is balanced with the system performance. This mode is applicable to Internet surfing, office, and learning.

The default configuration is as follows: CPU count: 1; memory: 1024 MB; hard disk: 20 GB

2) High (supporting 30 Cloud Desktops)

The processing performance is doubled. This mode is applicable to Cloud Desktop running, graphics rendering, and code compilation.

The default configuration is as follows: CPU count: 4; memory: 2048 MB; hard disk: 20 GB

3) Custom

The CPU count, memory capacity, and hard disk capacity can be customized. The maximum configuration is as follows: CPU count: 8; memory: 4 GB; hard disk: 40 GB

\* System Config: O Standard(Recommended) O High O Custom \* CPU Count : 4 \* Memory(MB) : 2048 ¢ \* Hard Disk Space(GB): 40 ÷ Used(GB): 26 Refresh \* CPU Type : Default is recommended. host ✓ ⑦ Contact technical support before changing it. coresconfig : 👝 Default is recommended. Contact technical support before changing it.

**Note:** Select proper hardware configuration for the Cloud Desktop based on the number of Thin Clients. Improper hardware configuration of the Cloud Desktop may cause performance bottleneck of the Cloud Desktop and system instability. Generally, the default standard configuration and high-performance configuration are recommended.

Step 3: Click OK.

Step 4: Install the RCC-Guest.

💁 RCC\_Guest\_Tool\_General\_Setup.exe 2016/10/26 13:32 应用程序 3,238 KB

After the installation is complete, restart the system. The virtual shared disk (drive D) is displayed.

🚱 💭 💌 🎠 Computer 🔸					
Organize 🔻 System p	properties Uninstall or change a program	Map network drive Open Control Panel			
★ Favorites ■ Desktop ↓ Downloads ₩ Recent Places	Hard Disk Drives (3)     Local Disk (C:)     49.4 GB free of 100 GB	Local Disk (D:)	Local Disk (E:)		
🚞 Libraries	<ul> <li>Devices with Removable Storage (2)</li> <li>Out of the state</li> </ul>				

Step 5: Check the network configuration and set the DHCP mode.

Internet Protocol Version 4 (TCP/IPv4)	Properties 💦 💌				
General					
You can get IP settings assigned autor this capability. Otherwise, you need to for the appropriate IP settings.	You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.				
Obtain an IP address automatical	ly				
O Use the following IP address:					
IP address:	172 . 29 . 4 . 1				
Subnet mask:	255 .255 .255 . 0				
Default gateway:	172 . 29 . 4 .254				
Obtain DNS server address auton	natically				
🕞 Use the following DNS server add	Iresses:				
Preferred DNS server:					
Alternate DNS server:	· · ·				
Validate settings upon exit	Advanced				
	OK Cancel				

Step 6: In cmd, run ipconfig /release to release the IP address.



Step 7: Normally shut down the PC and save the modified image.

#### III. Editing Installed Images

Generally, after you create an image and install the virtual drive, you can install professional software.

Step 1: Access the image directory of the RCD Server, and select Shared File from the Upload drop-down list box.



Select the software to be installed and upload it to the RCD Server (Note: Since V2.1, the ClassManager\_Student is automatically uploaded and you can directly edit installed images).

6	RG-ClassManager Student V3.1 R1.1	

Step 2: Select the image to be edited and click the edit icon.



Step 3: Edit and enable the image template.



Step 4: Start the image edit mode and install or upload software. All software uploaded to the shared directory is in Drive D of the virtual system.

🚱 💭 🕶 🛤 🕨 Computer 🕨					
Organize 👻 System p	properties Uninstall or change a progra	m Map network drive Open Control Panel			
☆ Favorites ■ Desktop ↓ Downloads ₩ Recent Places	<ul> <li>Hard Disk Drives (3)</li> <li>Local Disk (C;)</li> <li>49.4 GB free of 100 GB</li> <li>Devices with Removable Stora</li> </ul>	ge (2)	Local Disk (E:) 181 GB free of 215 GB		
🚞 Libraries					

Step 5: After all software is installed, check the network configuration, and set the DHCP mode.

Internet Protocol Version 4 (TCP/IPv4)	Properties 💦 💌			
General				
You can get IP settings assigned auton this capability. Otherwise, you need to for the appropriate IP settings.	You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.			
Obtain an IP address automatical	ly			
Output the following IP address: —				
IP address:	172 . 29 . 4 . 1			
Subnet mask:	255 . 255 . 255 . 0			
Default gateway:	172 . 29 . 4 .254			
Obtain DNS server address autom	natically			
Ouse the following DNS server add	resses:			
Preferred DNS server:				
Alternate DNS server:	· · ·			
🔲 Validate settings upon exit	Advanced			
	OK Cancel			

Step 6: In cmd, run ipconfig /release to release the IP address.



Step 7: Normally shut down the computer and save the modified image.

#### 5.1.5 Installing Software in Images

#### I. Editing Installed Images

Generally, after you create an image and install the virtual drive, you can install professional software.

Note: Software cannot be installed in the shared Drive D because the system restores Drive D after shutdown or restart. Therefore, you are suggested to install software in a non-system disk. If you need to install software in Drive D, delete the drive letter of the shared Drive D and use another drive letter, add an image hard disk named Drive D, and then install software.

Ruijie Cloud Class < ( Config Wizard ? Help (i) About Q Image List Image File 🧿 Image Shared File 65 B 2 Windows 7 Windows ' Windows XF Windows 7 Windows 7 win764 win7标准模板 winxp标准模板 hua64 win764位\_hua Disk:40GB Disk:40GB Disk:20GB Disk:20GB Disk:20GB RCD Server • æ

Step 1: Access the image directory of the RCD Server, and select Shared File from the Upload drop-down list box.

Upload the software to be installed to the RCD Server.






Internet Protocol Version 4 (TCP/IPv4)	Properties 💦 💽				
General					
You can get IP settings assigned autor this capability. Otherwise, you need to for the appropriate IP settings.	matically if your network supports b ask your network administrator				
Obtain an IP address automatical	Obtain an IP address automatically				
Ouse the following IP address:					
IP address:	172 . 29 . 4 . 1				
Subnet mask:	255 .255 .255 . 0				
Default gateway:	172 . 29 . 4 .254				
Obtain DNS server address auton	natically				
Ose the following DNS server add	Iresses:				
Preferred DNS server:					
Alternate DNS server:	· · ·				
Validate settings upon exit	Advanced				
	OK Cancel				

## C:\Users\Administrator>ipconfig /release

Windows IP Configuration

### 5.2 Version Upgrade

### 5.2.1 Upgrading the RCD Server

### I. Version Upgrade

### Description

The RCD Server can be upgraded in two modes: Web mode and USB flash drive mode. Both upgrade modes use the same upgrade files. However, the upgrade using a patch package, such as the xxx.tar, supports only the Web upgrade mode.

The upgrade modes are described as follows:

1. In Web upgrade mode, the software version can be directly upgraded while historical data is retained.

2. In USB flash drive upgrade mode, the RCD Server is actually restored to factory settings. Once the system is restored to the factory settings, all data on the RCD Server is lost (if you select the factory upgrade mode, images will be formatted; if you select the online upgrade mode, the image data will be retained).

The operation difficulties in both modes are similar. The upgrade process in Web upgrade mode is simple. The USB flash drive upgrade mode supports one-click upgrade, but you need to prepare the USB flash drive in advance. You can select any upgrade mode and refer to the following suggestions:

- 1. For in-use RCD Servers, the Web upgrade mode must be used to retain existing data.
- 2. For initially deployed RCD Servers, either mode is acceptable. The Web upgrade mode is recommended. If the version is earlier than V1.0.9, you can directly use the USB flash drive mode to avoid cross-version upgrade.

#### Note:

- 1. You need to use Google Chrome browser to log in to the RCD Server management UI in Web upgrade mode.
- 2. Do not randomly modify the name of the Web upgrade package. After the Web upgrade package is downloaded, check the integrity of files by using the MD5 tool.
- In cluster and stack scenarios, you are recommended to upgrade the slave RCD Server and then the upgrade the master RCD Server.

#### II. Web Upgrade Steps

1. The RCD Server upgrade using an ISO file takes about 25–30 minutes. Please wait patiently.

The following uses V3.1\_R1.11 as an example to describe the operation steps:

Step 1: Upload the complete RCDOS package.

Ruijie Cloud Class	$\langle \cdot \rangle$		Config Wizard ? Help i About admin
🗑 Home Page	RCD Server Upgrade		Upload Check for Update Refresh
	Version Status	Туре	Action
🕲 Image	RG-RCDOS_Server_V3.1_R1P2.25 2016-10-11 14.740M Ready	Upgrade Package	Details Upgrade Delete
Classroom	RG-RCDOS_Server_V3.1_R1.11 Upgrade complete	ISO	Delete
RCD Server			
🝙 Message	KG-RCDOS_Server_V3.0_K1P3.19 Unavailable	Upgrade Package	Details Delete
Svstem	RG-RCDOS_Server_V3.0_R1P2.17 Upgrade complete	Upgrade Package	Details Delete
(🗶) Maintenance 🗸	RG-RCDOS_Server_V3.0_R1.14 Unavailable	ISO	Delete
🔿 Upgrade 🖍	RG-RCDOS_Server_V2.1_R1.6 Unavailable	ISO	Delete
RCD Server Upgrade			
<ul> <li>Thin Client Upgrade</li> </ul>			

🔂 Terminal Image Directory - Connected - RuijieFTP									
local site: C:\		•	-	remote site:	/WEB				-
Filename	Filesize Filetype	Last modified	A	Filename	Filesize	Filetype	Last modified	Permissio	0

Step 2: Click Upgrade. The system runs the complete system package to start the upgrade.

Ruijie Cloud Class	$\overline{\langle}$				🔅 Config Wizard	? Help	(i) About
🛞 Home Page	RCD Server Upgrade					Upload	Check for Update
(h) Imaga	Version		Status	Туре	Action		
	RG-RCDOS_ 2016-10-11	Server_V3.1_R1P2.25	Ready	Upgrade Package	Details Upg	rade Delet	te
(I) Classroom	RG-RCDOS	_Server_V3.1_R1.11	Upgrade complete	ISO	Delete		
RCD Server	RG-RCDOS	Server_V3.0_R1P3.19	Unavailable	Upgrade Package	Details Del	ete	
Message		C V2.0 0102.17					
😰 System 🗸	RG-RCDOS	_Server_V3.0_K1P2.17	Upgrade complete	Upgrade Package	Details Del	ete	
🛞 Maintenance 🗸 🗸	RG-RCDOS	Server_V3.0_R1.14	Unavailable	ISO	Delete		
🕥 Upgrade 🖍	RG-RCDOS	_Server_V2.1_R1.6	Unavailable	ISO	Delete		
<ul> <li>RCD Server Upgrade</li> </ul>							
•Thin Client Upgrade							

Note: The upgrade takes about 25 minutes. You can connect a display to the RCD Server to view the upgrade progress. After upgrade is complete, wait until the system restarts.

After the upgrade, click About to check the version number of the RCD Server.



IE 8/9/10, Firefox and Google Chrome browsers are supported. 1024\*768 display (1280\*1024 recommended) Technical Support ID:52883 SVN Reversion: 34616

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# III. USB Flash Drive Upgrade Steps

Preparations before upgrade:

- 1. Prepare a display and a keyboard and a mouse with USB ports.
- 2. Prepare a USB flash drive with a capacity of 8 GB, and format the USB flash drive.
- 3. Prepare the created ISO image for the RCDOS.
- 4. Select a tool that supports ISO image recording on the USB flash drive. In this example, the UltraISO is used.

Note: UltralSO in version 9.5.5.2960 (<u>UltralSO 9.5.5.2960.zip</u>) is recommended because the UltralSO of other versions may result in a programming failure.

### The upgrade process is detailed as follows:

1. Install the UltraISO in the Windows system. Insert the USB flash drive (≥4 GB). Start the UltraISO, click File on the menu bar, and open the downloaded image file.

lltraISO (Trial Version)			
File Actions Bootable Tools O	ptions Help		
🗋 🖻 • 🕭 🖩 🎼  ዿ 🖳	n 🎱 🧭 🦻 🔍 🕲	🕖 🚯 Total Size: 🚺 OKB 🛛	0% of 650MB - 650MB free
Image: Data CD/DVD		Path: /	
20161031_105846	Filename	Size Type	Date/Time L
	•	III	4
Local:	🍺 🏱 🗙 🗔 🔞 🖓 😫 🛔	Path: C:\Users\Administrator\Docum	ients∖My ISO Files
Computer → My ISD Files → Documents → Desktop → → 系统(C:) → → 軟件(D:) → → 軟件(D:) → → 軟件(C:) → → 軟件(F:) → → ↓ CD/DVD Drive(G:) → → ↓ CD/DVD Drive(H:)	Filename	Size Type	Date/Time
Copyright (c)2002-2015 EZ	B Systems, Inc.	Image: 0 files, 0 KB	Local: 0 files, 0 KB

2. In the menu bar, click **Bootable** to write the image into the hard disk. In the window as shown in the following figure, set **Write Method** to **USB-HDD+**, and click **Write**.

In the displayed dialog box, indicating that the data on the USB flash drive will be lost, click Yes.

fessage:						Save
Time	Event					
上午 11:00:34	Windows 7 v6.1 B (I:, 31 GB)Kingstor	uild 7601 (Se nDataTravele	rrvice Pack 1) r 2.0PMAP			
< Disk Drive	(I:, 31 GB)Kingston	III DataTravelei	2.0PMAP	•	] Verify	
Image File						
Write Method	USB-HDD+ -					
Hide Boot Partition	None	•		X	press Boot	
Done:	0%	Elapsed:	00:00:00	I	Remain:	00:00:00
					Speed:	OKB/s

3. After the recording is complete, click **Close** and remove the USB flash drive.

Vrite Disk Image		×
Message:	(	Save
Time	Event	
上午 11:01:19 上午 11:01:19 上午 11:01:19 上午 11:01:19 上午 11:01:19 上午 11:01:20 上午 11:01:20	Write Method: USB-HDD+ C/H/S: 3825/255/63 Boot Sector: Unknown WARNING! USB disk created from ISO image may not boot proper! Preparing media Number of blocks in ISO image is 60128 Start Writing	بر =
•	III	
Disk Drive: Image File:	(I:, 31 GB)KingstonDataTraveler 2.0PMAP	
Write Method:	USB-HDD+ -	
Hide Boot Partition:	None   Xpress Boo	ot
Done: 49	39% Elapsed: 00:00:01 Remain:	00:00:01
For	Speed: nat Write Abort Close	14.85MB/s

4. For currently delivered RCD Servers, the system is set to boot from the USB flash drive by default. Insert the USB flash drive and restart the RCD Server, and wait until a page as shown in the following figure is displayed.



5. Select the upgrade installation mode or factory installation mode according to actual situations. Press Enter, and wait until the RCD Server is completely installed.





6. Remove the USB flash drive and restart the system. If the login page as shown in the following figure is displayed after 3 minutes, the installation is successful. If the login page is not displayed, the installation fails, and you need to install it again.

Ruijie Cloud Desktop(RCD) Server 2. Build Date:2815-89-22 Raijie%2815	0_R196.32		
Technical Forum: support.rwijie.co Service Hotline: 4000-111-800	n.cn		
The protocol of the loss	(CTRL+F) Factorytest	(F12) Shut Boum-Restart	

### 5.2.2 Upgrading the ClassManager\_Teacher

### I. Upgrade Description

Note: Since RCC\_1.1, the teaching software is formally switched to ClassManager Rainbow.

The version upgrade of the ClassManager\_Teacher involves the version switching between two sets of software. During the upgrade, you need to uninstall the RCC-Teacher Tool and the ClassManager, and then install the ClassManager Rainbow.

### **II. Upgrade Steps**

### Step 1: Upgrade the RCC-Admin-Tool.

- On the teacher PC or common management PC, choose Control Panel > Add/Remove Programs in Windows. Uninstall the existing RCC-Admin-Tool.
- 2. On the Web management page of the RCD Server, select **Image** on the left navigation tree. Click **Admin-Tool** in the lower right corner, and download and install the RCC-Admin-Tool of the latest version.



Step 2: Upgrade the RG-ClassManager\_Teacher on the teacher PC.

**Note:** If an earlier version ClassMananger1.X is installed, uninstall the RCC-Teacher and RG-ClassManager of the earlier versions and restart the PC.

1. Start the RG-ClassManager\_Teacher installed on the teacher PC. After it connects to the server, it automatically complete the upgrade.

2. If the **RG-ClassManager\_Teacher** program is not installed on the teacher PC, you can download and install the RG-ClassManager\_Teacher\_V3.1\_R1.11.

• Note: After you install or upgrade the RG-ClassManager\_Teacher, you need to check whether the IP address of the teacher PC is set on the Web page.

Check whether the IP address of the teacher PC is configured on the Web page.

Edit Classroom	×
* Name :	Default_Classroom
* Teacher PC IP :	172.18.158.204
* Preferred RCD Server :	192.168.122.1 ~
Thin Client Start IP :	
Thin Client End IP :	
Description :	$\sim$
	OK Cancel

Installing the workspace: After the RCD Server is upgraded to V3.0, the workspace is automatically upgraded.

(III) Classroom	$\checkmark$	Onfig Wizard
	Workspace	
(📰) RCD Server	Name	
🗭 Message	RG-WorkSpace_Server_V3.1_R1.11.tar.gz	
😫 System 🔺	RG-WorkSpace_Server_V3.0_R1.14.tar.gz	
Network Setting		
<ul> <li>System Setting</li> </ul>		
● License		
<ul> <li>Workspace</li> </ul>		
●HA Setting		

Set the parameters for the workspace server.

Classroom		🔅 Config Wizard	? Help	(i) About	admin logou
	Workspace		Upload	Refresh	Config Parameter
RCD Server	Name				Actio
💬 Message	RG-WorkSpace_Server_V3.1_R1.11.tar.gz				
😫 System 🖍	RG-WorkSpace_Server_V3.0_R1.14.tar.gz				
Network Setting					
<ul> <li>System Setting</li> </ul>					
●License					
<ul> <li>Workspace</li> </ul>					
•HA Setting					
$\langle \rangle$		(	🔅 Config	Wizard	? Help
Parameter					
	Workspace Server IP: 172.18.	158.201 ×			
	Workspace Server Port : 9000				
		ОК Ва	ick		

**Note:** For details about the installation of the RG-ClassManager Rainbow, see the "ClassManager\_Teacher installation." You need to apply for a license and import the license.

### 5.2.3 Image Upgrade

### I. Upgrade Description

The image upgrade mainly refers to the image-related software upgrade.

The upgrade includes the following aspects:

- 1. Upgrade the Guest-Tool and update the Cloud Desktop driver and other optimization schemes
- 2. Upgrade the ClassManager\_Student.

### II. Upgrade Process

#### Step 1: Upgrade the RCC-Guest-Tool.

a) Log in to the RCD Server. On the menu bar, click **Image**. Click **Edit**. On the displayed page, click **Modify** and then enable the image.

(In normal situations, the RCC-Guest-Tool is automatically upgraded. If the automatic upgrade fails due to factors such as network disconnection, and the automatic upgrade prompt is not displayed, you can access Drive D and manually click **RCC\_Guest\_Tool\_General\_Setup.exe**.)

- Access the Windows Cloud Desktop, choose Control Panel > Add/Remove Programs, uninstall the RCC-Guest-Tool, and restart the Windows Cloud Desktop.
- RCC\_Guest\_Tool\_General\_Setup.exe
- 3. After the Windows Cloud Desktop is restarted, click **Cancel** in all displayed hardware discovery wizards.
- In Windows, choose Start > Computer > Drive D, click and run the RCC-Guest-Tool of the latest version, for example, RCC\_Client\_3.1\_R1.11\_Setup.exe.
- 5. Restart the Windows Cloud Desktop. After the desktop is displayed, shut down Windows.
- 6. If there are multiple images, repeat the preceding steps.

#### Step 2: Upgrade the ClassMananger\_Student.

(In normal situations, the RCC-Guest-Tool is automatically upgraded. If automatic upgrade fails due to factors such as network disconnection, access Drive D and manually click the **RG-ClassManager\_Student\_V3.1\_R1.11.exe**.)

Use the ClassManager as an example. You need to uninstall the existing ClassManager Rainbow and install the ClassManager\_Student of the latest version.

- 1. Before editing the image, upload the latest ClassManager\_Student version to the shared directory (after the RCD Server is installed, Drive D is automatically uploaded).
- 2. Edit the image Cloud Desktop. Locate the relevant program and click **Uninstall**.



Enter the password to start the uninstallation. The default password is ruijie.com.

Message	×
Enter your password :	
OK Cancel	

- 3. After the ClassManager of the earlier version is uninstalled, restart the Cloud Desktop system. Access the shared directory of drive D, and install the latest version of the ClassManager\_Student.
- 4. If there are multiple images, repeat the preceding steps.

### 5.2.4 Upgrading the Rain Thin Client

### I. Upgrade Description

Log in to the RCD Server and perform the following operations:

Rain Thin Clients are classified into the following types by hardware architecture:

- Rain Thin Clients using the x86 architecture: Typical devices are Rain100 and Rain200. The hardware architecture has no different from common PCs. For devices using this architecture, adopt the iPXE/PXE upgrade scheme. For details, see the "iPXE/PXE Upgrade Scheme for Thin Clients" in the appendix.
- 2. Rain Thin Clients using the ARM architecture: Typical devices are Rain100S and Rain200S. The Android system is used as the underlying system. Common devices using the ARM architecture include Mi Box and HiWiFi. For devices using this architecture, adopt the OTA upgrade scheme. For details, see the "OTA Upgrade Scheme for Thin Clients" in the appendix.

Pay attention to the following points if you use the PXE upgrade scheme to upgrade Thin Clients using the x86 architecture:

- In addition to batch upgrade using the PXE upgrade scheme, you can use a USB flash drive to upgrade a single Thin Client. For details, see step 3: Upgrade the Rain100/Rain200 using the USB flash drive in this chapter. Because there are a large number of Thin Clients, it is not recommended to upgrade the Thin Client one by one by using the USB flash drive.
- Before upgrading a Thin Client, ensure that the DHCP service is enabled and IP addresses in the specified address segment are sufficient. When you upgrade a Thin Client and restart the system, if the system remains at the page for obtaining the DHCP service, try to clear the lease, expand the DHCP address segment, and upgrade the system again.
- By default, the multicast upgrade mode is adopted. In scenarios with poor network conditions (such as the 100M network environment), you can use the unicast upgrade mode.

### II. Web Upgrade Steps

Note: The following describes how to upgrade the Thin Clients using the x86 architecture (Rain100 and Rain200) and the Thin Clients using the ARM architecture (Rain100S and Rain200S).

Step 1: Upload the Thin Client OS to the Web page of the RCD Server, and start all Rain Thin Clients.

All Thin Clients conduct automatic upgrade after connecting to the RCD Server.

After all Thin Clients are upgraded, the image selection page is displayed.



The upload scheme for Rain100 and Rain200 series is as follows:

Ruijie Cloud Class	<					Config Wiz	zard	Help	(i) About
\land Home Page	Rain100/200 Series Rain	100S/200S/200C Seri	ies						
(f) Image	Firmware List					Upload Firm	nware Re	efresh	Upgrade Wizard
(G) image	System					OS Sour	ce		Push Mode
(I) Classroom	RG-RainOS_V2.1_R1.13_L_Fa	ctory.iso				Install vi	a ISO		Fast, Complet
RCD Server									
Message									
🕃 System 🗸									
🗶 Maintenance 🗸 🗸									
🕥 Upgrade 🖍									
<ul> <li>RCD Server Upgrade</li> </ul>									
• Thin Client Upgrade									
🐼 Terminal Image Direc	tory - Connected - RuijieFTP								- 0 <b>X</b>
local site: C:\		•	-	remote site:	/PXE				-
Filename	Filesize Filetype Last	t modified 🛛 🔺		Filename	Filesize	Filetype	Last modi	fied F	Permissio Ov

The upload scheme for Rain100S, Rain200, and Rain200C series is as follows:

Choose **Upgrade** > **Thin Client Upgrade**, click **Upload Firmware** and load the standard OTA upgrade package to the RCD Server. Ensure that the OTA upgrade package to be upgraded is the package for upgrading the Thin Client to the target version.

Ruije Cloud Class	$\langle \rangle$			Onfig Wizard	? Help	(i) About	8 admin	logout
Rome Page	Rain100/200 Series	Rain100S/200S/20	0C Series					
	Firmware List Supported F	irmware List			Uploa	d Firmware Ref	resh Help	
() Image	File Name	Model	Hardware Version	Target Software Version		Upgrade Time	;	
Classroom	Rain200S(C).zip	Rain200S(C)	V1.0	RG-RainOS-V3.1_R1.11_A		2016-10-01 0	3:09:57	
RCD Server	Rain100SV2.zip	Rain100S	V2.0	RG-RainOS-V3.1_R1.11_A		2016-10-01 03:09:57		
Message	Rain100SV1.zip	Rain100S	V1.0	RG-RainOS-V3.1_R1.11_A		2016-10-01 0	3:09:57	
😫 System 🗸	If the software version of specific Thin Client, switc	Thin Clients is lower that h to manual upgrade. Set	an that of the RCD Server, Thin Client see Help for details.	s will be upgraded automatically	y when connection	ng to the server. If	you want to upg	jrade a
🛞 Maintenance 🗸 🗸	Thin Client List [Auto U	pgrade]		monitor, it malcates that the m	in chefte has con		Manual Upgrade	
🕥 Upgrade 🖍								
<ul> <li>RCD Server Upgrade</li> </ul>								
•Thin Client Upgrade 🖊								

Click the upgrade package to be uploaded and upload it to the server.

😴 Terminal Image 🛛	irectory - Con	nected - Ruiji	eFTP	_						
local site: C:\				-	remote site:	/OTA				•
Filename	Filesize	Filetype	Last modified	*	Filename	Filesize	Filetype	Last modified	Permissio	0

After the upgrade package is uploaded, refresh the OTA service tab page. If the latest OTA version number is displayed, the upgrade is successful.

### Step 2: Implement the iPXE/OTA image distribution function.

For details, see the "iPXE Upgrade for Thin Clients, PXE Upgrade for Thin Clients, and OTA Upgrade for Thin Clients" in the Appendix.

For the Rain100 and Rain200, the iPXE upgrade mode is recommended. If certain Thin Clients fail to be upgraded, use the PXE or USB flash drive upgrade mode.

For Rain100S and Rain200S, the OTA upgrade mode is recommended.

Step 3: Configure Thin Clients by using the RG-ClassManager 3.1 in a unified manner, and re-number the Thin Clients.

For details, see the "One-click Deployment" in "Typical Deployment Schemes".

III. Upgrading the Rain100S and Rain200S by Using the USB Flash Drive

② UltraISO (试用版) - C:\Users\Administrator\Desktop\RG-RainOS_V3.1_R1.11_L_Factory_x64.iso									
File Actions Bootable Tools C	ptions Help								
🗋 🖻 • 🗞 🗟 🞼 👶 🖳	n 🔮 🧬 🌗 🔍 🕐	Fotal Size	: 1379MB 30% of	4.7GB = 3096MB free					
Image: Bootable CD/DVD 📝	🍠 🗙 📂 🗔 🛛 🚱 🏶 🍘 🛛 Path:	/							
2016-09-09-02-img	Filename	Size	Туре	Date/Time					
	🛅 . di sk	12	Folder	2016-09-09 10:26					
DOOT	i boot	155	Folder	2016-09-09 10:26					
	🛅 EFI	22,966 KB	Folder	2016-09-09 10:26					
live	in home	1,107,05	Folder	2016-09-09 10:26					
syslinux	Dive	279,735 KB	Folder	2016-09-09 10:26					
🗄 💼 utils	🛅 syslinux	560 KB	Folder	2016-09-09 10:26					
	Dutils	927 KB	Folder	2016-09-09 10:26					
	🖬 Clonezilla-Live-Version	178	File	2016-02-03 21:49					
	GPL GPL	18 KB	File	2012-08-13 06:24					
	•			•					
Local:	🎓 📂 🗙 🗔 🛭 🙀 🎲 😰 🛛 Path:	C:\Users\Admir	uistrator\Documents\M	y ISO Files					
Computer	Filename	Size	Туре	Date/Time					
my ISU Files									
■ — ■ 系统(C:)									
■ ━ 軟件 0:)									
│ 🗄 📼 文档 Œ: )									
亩									
🕀 📲 CD/DVD Drive(G:)									
🕀 🔐 CD/DVD Drive(H:)									
·····································									
Copyright (c)2002-2015 E	ZB Systems, Inc. In	nage: 2 files,	20 KB Loo	al: O files, O KB					

ite Disk Image	_	_			×
Message:					Save
Time	Event				
上午 09:30:24	Windows 7 (I:, 8 GB)	v6.1 Build 7601 )SanDisk Cruzer	(Service Pac) Blade 1.26	k 1)	
•		m			4
Disk Drive:	(I:, 8 GB)	SanDisk Cruzer	Blade 1.26	▼ Verify	
Image File:	C:\Users\A	.dministrator\De	sktop\RG-RainO	S_V3.1_R1.11_L_F	acto:
Write Method:<	USB-HDD+				
le Boot Partition:	None	-		Xpress Boot	:
Done: (	0%	Elapsed:	00:00:00	Remain:	00:00:00
					/
				Speed:	OKB/s
Form	mat 🤇 🄇	Write	Abort	Close	

rite Disk Image			×
Message:		Save	
Time	Event		*
上午 09:30:24 上午 09:31:05 上午 09:31:05 上午 09:31:05 上午 09:31:05 上午 09:31:05 上午 09:31:05 上午 09:31:06	<pre>(I:, 8 GB)SanDisk Cruzer Blade 1.26 Preparing data Write Method: USB-HDD+ C/H/S: 973/255/63 Boot Sector: Syslinux v6 Preparing media Number of blocks in ISO image is 2855184 Start Writing</pre>		E
<b>⊥</b>   ••••••••			P
Disk Drive: Image File: Write Method:	(I:, 8 GB)SanDisk Cruzer Blade 1.26 - Vo C:\Users\Administrator\Desktop\RG-RainOS_V3.1_R1. USB-HDD+ -	erify 11_L_Facto:	
de Boot Partition:	None - Xpres	s Boot	
Done: 23	06% Elapsed: 00:01:32 Rem	ain: 00:05	5:06
Form	Sp at Write Abort O	eed: 3.58N	B∕s

 Insert the USB flash drive into a Thin Client and restart the Thin Client. For the Rain100, press F2 or Delete to enter the BIOS. Set the startup items and press F4 to save the settings and exit.



2. After booting from the USB flash drive, the system displays a page as shown in the following figure. Press **Enter** to enter the default options.

GNU GRUB	version 2.00-20
Cionezilia live with img 2014-01-07-11-img	(Default settings, VGA BD0x600)
Cionezilia live with img 2014-01-07-11-img	(Default settings, VGA 1024x768)
Cionezilia live with img 2014-01-07-11-img	(Default settings, VGA 640x480)
Cionezilia live with img 2014-01-07-11-img	(Default settings, KME)
Cionezilia live with img 2014-01-07-11-img	(To RAN, boot media can be removed later)
Cionezilia live with img 2014-01-07-11-img	Eate graphic settings (vga=normal)
Cionezilia live with img 2014-01-07-11-img	(Failsafe mode)
Use the r and + keys to select which en	try is highlighted.
Press enter to boot the selected os, en	to edit the commands before boothes Software Lab.
Command-line.	mastationab Center for High Performance Computin

3. During the boot, the system displays two prompts, indicating that the data in the hard disk will be overwritten. Enter **y** and press **Enter**. Then, the system enters the restoration process.



4. After the system restoration is complete, the system displays a page as shown in the following figure. Select **Poweroff** and press **Enter**. The system is shut down, and the installation is completed.

powerofi	Poweroff
reboot	Reboot
rerun1	Start over (inage prompt
	(in a control of the second se
	<u></u>

5. Remove the USB flash drive, restart the system, and confirm the system version.



# 6 Typical Deployment Schemes

### 6.1 Local Deployment Mode

### 6.1.1 Cloud Desktop Campus Network and Thin Client Campus Network

### I. Scenario Description

- 1. Local deployment mode is recommended when the IP addresses of the campus network are sufficient. This deployment mode is the simplest among the three deployment modes.
- 2. Both the Thin Client and the Cloud Desktop use the IP address and gateway of the campus network to access the Internet, and each of them occupies one IP address.
- 3. You can determine whether to configure link aggregation for the server NIC according to the actual situations.

## II. Key Configuration

### **Points**

- 1. Local deployment is recommended for the standalone deployment mode.
- 2. If the link aggregation function is enabled for the NIC, configure the port of the peer switch to work in port aggregation mode. If the switch supports LACP, enable LACP on the corresponding server.
- 3. Set the IP address of the master RCD Server configured on the Thin Client to the IP address of the first network port of the RCD Server. If two network ports are aggregated, use the IP address of the aggregate port.
- 4. Configure the IP address of the NIC of the teacher PC to be in the same network segment as the campus network.
- 5. On the RCD Server, set the IP address of the ClassManager\_Teacher PC to the campus network IP address of the NIC of the teacher PC.
- 6. Set the RCD Server address of the ClassManager\_Teacher to the campus network IP address of the RCD Server.

Note: The NIC link aggregation is to achieve link redundancy and improve the network reliability. This configuration is optional for the standalone deployment scheme. For new deployment, if link aggregation is required, configure port aggregation for the peer switch. Two network ports of the RCD Servers must ensure the network access through the 1000M switch.

### III. Operation Steps

The following figure shows the topology in deployment mode 1.



#### Detailed configuration steps are as follows:

### A: The link aggregation is not configured for the NIC of the RCD Server.

Step 1: Click Config Wizard to configure the system. Click OK to restart the system to make the configuration takes effect.

Ruijie Cloud Class	$\overline{\langle}$				Config Wizard	I 🥐 Help	(i) A
👩 Home Page				To	otal: 1 Server(s)		
() Image	Install	Software	Create Imag			<sup>و</sup> 🗸	erver Sta
(I) Classroom	Default_Classroom						
RCD Server		No Class	13		4		1
Dessage	T	Start Class	Image	Т	otal Cloud Desktop	Activ	e Cloud De
System 🗸	Cloud Desktop List				Bat	ch Restart	Batch Shutdo
🛞 Maintenance 🗸	Cloud Desktop Na	me RCD Server	Image File	Thin Client IP	Thin Client MAC V	/irtual Interface M	emory (MB)
	Stu-02	192.168.122.2	winxp标准模板_S262_Stu-02_1.inst	192.168.122.12	58:69:6C:3E:39:B2 5	i906 20	48

Click Next to enter a wiza	rd to perform advanced configuration	
-RCD Server Network	a to perform davancea comiguration	
Configure LAN addre Clients. * LAN1 IP :	ss for communication with Thin	Topology (Cloud Desktop & Thin Client Access Campus Network)
* LAN2 IP :	172.18.158.201	
* Subnet Mask :	255.255.255.0	*****
* Gateway :	172.18.158.1	
* DNS :	114.114.114.114	79:547 Autor M. Constanting and Autor and Autor
Cloud Desktop and Te * Cloud Desktop C * Cloud Desktop Sta * Teacher P	eacher PC IP Count : 60 🗘 rt IP : 172.18.158.11 PC IP : 172.18.158.204	CM Rainbow License Display SN Export SN The license is imported. Please enter Ruijie Product License System to apply for a license X
	A	Desiters are maxim. Betweeters shutting down the Cloud Desite

Step 2: Configure the NIC address for the ClassManager\_Teacher PC.

Internet Protocol Version 4 (TCP/IPv4)	Properties 💦 💌								
General									
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.									
Obtain an IP address automatically									
• Use the following IP address:									
IP address:	172 . 18 . 158 . 204								
Subnet mask:	255 .255 .255 . 0								
Default gateway:	172 . 18 . 158 . 1								
Obtain DNS server address autor	natically								
• Use the following DNS server add	Iresses:								
Preferred DNS server:									
Alternate DNS server:	· · ·								
Validate settings upon exit	Advanced								
	OK Cancel								

Step 3: Configure the ClassManager\_Teacher. Set **RCD Server IP** to the IP address of the RCD Server used to access the campus network.

Ruijie Cloud Class	Login Thin Cli	ients 0 /1	Sign In Group T		Lock (	-	<b>*</b> -	- x
	* Reconnecting to the RCE	) Server				C 🗭	ettings onfigure	Thin C
	test-PC					R	CD Serve	r
Start »						(?) н	elp	
						h	V	/orkspa
Screen Broadcast								Ω
							A	account
								Quiz
							P	Passing
Send File >								
(U)							c	Cloud Cl
Shutdown »								
RCC Setting	gs						_	□ ×
Basic	Settings Layout Settings							
	RCD Server IP:	172. 18. 158. 2	201	×				
	Workspace Path:	C:\Users\Adm	inistrator\Desktop\B	Iomework Browse	*			
	Sign-in Record:	Auto Sa	ve(Auto saved afte	er sign-in ends)				
	5	Save last	100 day(s) r	ecord Details				
		OManual	Save(click absent	students to save)				
	RCD Shutdown:	Show	Hide					
		(This functio	n is in Remote Shutd	own)				
		🗌 Run at	Startup					
		Sat	ve Cancel					

Step 4: Configure Thin Clients in batches on the ClassManager configuration.

Note: Set **RCD Server IP** to the IP address of the first network port on the master RCD Server.

×	
D	tch Doloto
ork Address ain an IP address automatically the following IP address art IP : 172.18.158.111 Mask : 255.255.255.0 Gateway : 172.18.158.1 ain a DNS server address automatically the following DNS server address ad DNS Server : 114.114.114.114 te DNS Server : 114.114.114.114	tch Delete Action 1 Edit 2 Edit
	ain an IP address automatically the following IP address art IP : 172.18.158.111 Mask : 255.255.255.0 Gateway : 172.18.158.1 ain a DNS server address automatically the following DNS server address ad DNS Server : 114.114.114.114 te DNS Server : 114.114.114.114

B. The link aggregation is configured for the NIC of the RCD Server.

Step 1: Click Config Wizard to configure the system.

Fiuijie Cloud Class	$\checkmark$		😨 Config Wizard	? Help i About	
👩 Home Page			Total: 1 Server(s)		
🕲 Image	Install Software	Create Image		Server Status	
Classroom	<ul> <li>Default_Classroom</li> </ul>			• Class	
RCD Server	No Class	13	60	1	
🗭 Message	Start Class	Image	Total Cloud Desktop	Active Cloud Desktop	
🔹 System 🗸	Cloud Desktop List		Batch Re	estart Batch Shutdown	



oud Desktop accesses network. Thin Client accesses network.	s campus campus	Cloud Desktop accesses campus network. Thin Client accesses private network.	Cloud Desktop accesses private network. Thin Client accesses private network.
Cloud Desktop and Thin Client with an IP address of campus n respectively for Internet access.	are configured etwork 	Cloud Desktop is configured with an IP address of campus network for Internet access. Thin Client accesses Internet through NAT.	Cloud Desktop and Thin Client access Internet through NAT.

Welcome to RCD

#### Other

Cloud Desktop IP	Thin Client IP
<ul> <li>Static IP(Recommended)</li> </ul>	<ul> <li>CMR Batch Config(Recommended)</li> </ul>
Cloud Desktop Count : 60  Cloud Desktop Start IP : 172.18.158.11  DHCP  Start IP : End IP : End IP :	This mode will not generate configuration information on the RCD Server. DHCP Start IP: End IP:
Teacher PC IP         * Teacher PC IP :       172.18.158.204       X         Enter the IP address of the Teacher PC with ClassManager Rainbow installed.	Workspace           Deployed on RCD Server/Other Server           Workspace Server IP :           Enter the IP address of the RCD Server where Workspace is deployed.

Welcome to RCD	
	CM Rainbow License
	System Time: : 2016-10-26 16:10:04
	Display SN Export SN
	<ul> <li>Incorrect time may affect the license validity period.</li> </ul>
	+ Import License
	✓ The license is imported.
	Please enter Ruijie Product License System to apply for a license
	Back Next

After checking that the configuration is correct, click **OK**.

Welcome to RCD			
Info			
System Setting Deploy Mode : Local Role : Master RCD Server NIC Mode : Link Aggregation LACP : Disable Topology : Cloud Desktop accesses campus network. Thin Client accesses campus network.	Network Setting           AP IP : 172.18.158.201           Subnet Mask : 255.255.255.0           Gateway : 172.18.158.1           DNS : 114.114.114		
Other Cloud Desktop IP : Static IP Cloud Desktop Count : 60 Cloud Desktop Start IP : 172.18.158.11 Thin Client IP : CMR Batch Config	CM Rainbow License		
Back	ОК		

Step 2: Configure the NIC address for the ClassManager\_Teacher PC.

Internet Protocol Version 4 (TCP/IPv4) Properties			
General			
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.			
Obtain an IP address automatically			
• Use the following IP address:			
IP address:	172 . 18 . 158 . 204		
Subnet mask:	255 .255 .255 . 0		
Default gateway:	172 . 18 . 158 . 1		
Obtain DNS server address automatically			
Output to the following DNS server add	resses:		
Preferred DNS server:			
Alternate DNS server:	· · ·		
🔲 Validate settings upon exit	Advanced		
	OK Cancel		

Step 3: Configure the ClassManager\_Teacher. Set **RCD Server IP** to the IP address of the RCD Server used to access the campus network.

RCC Settings	_ <b>_</b> ×
Basic Settings Layout Settings	
RCD Server IP:	172. 18. 158. 201 *
Workspace Path:	C:\Users\Administrator\Desktop\Homework Browse *
Sign-in Record:	Auto Save(Auto saved after sign-in ends)
	Save last     Image: Grad and a constraints       OManual Save(click absent students to save)
RCD Shutdown:	Show Itide
	Run at Startup
	Save Cancel

Step 4: Configure Thin Clients in batches on the ClassManager.

Note: Set **RCD Server IP** to the IP address of the aggregate network port on the master RCD Server.

Thin client Settinas	×
Batch Config	×
Batch Config Batch Config Number S Number S Number S Resolution ? Resolution : 1600 * 900 Refresh Rate : 60HZ RCD Server IP RCD Server IP RCD Server IP : 172.18.158.201 Power Supply ? Auto Power On : Start	Network Address     Obtain an IP address automatically     Use the following IP address     Start IP : 172.18.158.111     Subnet Mask : 255.255.255.0     Default Gateway : 172.18.158.1     Obtain a DNS server address automatically     Use the following DNS server address     Preferred DNS Server : 114.114.114.114     Alternate DNS Server :
	Apply Cancel

#### Switch configuration:

- When link aggregation is not configured for the RCD Server, generally, use default settings on the switch. If special planning requirements are raised for the campus network, the IP address of the switch that connects the RCD Server and the Thin Client can be configured in the same network segment (VLAN) as the campus network.
- 2. When link aggregation is configured for the RCD Server, you need to configure port aggregation on the switch. When LACP is enabled on the RCD Server, LACP needs to be configured on the switch port and the switch port needs to be configured to work in passive mode.

#### The configuration of the switch connecting to the RCD Server is as follows:

#### LACP is not enabled:

inter	ran	gi0/1-2
descr	to s	server1
port-g	group	o 1
exit		

#### LACP is enabled:

Note: If you are not clear whether the switch supports LACP, it is recommended that LACP be disabled because incompatible modes at both ends will cause various anomalies.

inter ran gi0/1-2 descr to server1 port-group 1 mode pass exit

### 6.1.2 Cloud Desktop Campus Network and Thin Client Private Network

### I. Scenario Description

- 1. The local deployment mode is recommended because it can save campus network IP addresses and is close to the actual application scenarios. Each Cloud Desktop can be understood as one network node on the campus network.
- The Cloud Desktop connects to the network by using a campus network IP address and gateway. The Thin Client does not occupy a campus network IP address. It connects to the network by using the IP address translated by NAT of the RCD Server.

### II. Key Configuration Points

- Set the IP address of the master RCD Server to the IP address of the first network port of the RCD Server for the Thin Client. In link aggregation mode, two network ports are aggregated as one aggregate port and there is only one network port address. In this case, set the IP address of the master RCD Server to the IP address of the aggregate port for the Thin Client.
- 2. Set the IP address of the ClassManager\_Teacher NIC to a campus network IP address, and set the gateway to the campus network gateway.
- 3. On the RCD Server, set the IP address of the ClassManager\_Teacher PC to the master IP address of the ClassManager\_Teacher NIC, that is, the campus network IP address.
- 4. Set the IP address of the RCD Server on the ClassManager\_Teacher to the campus network IP address of the RCD Server.

### 6.1.3 Cloud Desktop Private Network and Thin Client Private Network

#### I. Scenario Description

- 1. The local deployment mode is applicable to the scenarios where the campus network addresses are extremely insufficient. Otherwise, it is not recommended.
- 2. The Cloud Desktop and Thin Client do not occupy campus network IP addresses. They can access the network after their addresses are translated by NAT of the RCD Server. The NAT process affects the performance of the RCD Server NIC.

### II. Key Configuration

Points

- Set the IP address of the master RCD Server to the IP address of the first network port of the RCD Server for the Thin Client. In link aggregation mode, two network ports are aggregated as one aggregate port and there is only one network port address. In this case, set the IP address the master RCD Server to the IP address of the aggregated port for the Thin Client.
- 2. Set the IP address of the ClassManager\_Teacher NIC to be in the same network segment as the Cloud Desktop, that is, network segment 192.168.123, and set the gateway address to 192.168.123.1.
- 3. On the RCD Server, set the IP address of the ClassManager\_Teacher PC to the IP address of the NIC of the teacher PC.
- 4. Set the IP address of the RCD Server on the ClassManager\_Teacher to the campus network IP address of the RCD Server.

### 6.2 Stack Deployment

### I. Scenario Description

The stack deployment scheme can address the following problems:

1. A single classroom contains excessive Thin Clients, and a single RCD Server cannot serve all the Thin Clients. Multiple RCD Servers are required to jointly manage the Thin Clients.

For example, a classroom contains 90 Thin Clients. You need to configure two RCD Servers in stack mode to satisfy the teaching requirements.

2. High-performance Cloud Desktops are required and a single RCD Server cannot support these Cloud Desktops simultaneously. Multiple RCD Servers are required to share the load.

For example, high-performance Cloud Desktops (2 GB memory) are required in a classroom. One RCD6000 supports 30 Thin Clients at most. If 60 Thin Clients are required, you need to configure two RCD6000s in stack mode.

In stack mode, you can dynamically calculate the number of Cloud Desktops served by each RCD Server based on the required number of Thin Clients and upper load limit of the RCD Server. Ensure that the data on each RCD Server is consistent.

# II. Key Configuration Points

- 1. The models of RCD Servers are not restricted when they are stacked. For example, the RCD3000 and RCD6000 can be stacked, or two RCD4500s can be stacked. Each the RCD Server supports 90 Thin Clients.
- In RCD stack mode, one master RCD Server and multiple slave RCD Servers are deployed. All management operations
  are implemented on the master RCD Server. You need to only configure IP addresses for the slave RCD Servers and add
  them to the stack.
- 3. After the stack mode is configured, you only need to manage the master RCD Server in web mode. Set the server IP addresses configured for all Rain Thin Clients to the master IP address of the master RCD Server. Data is synchronized from the master RCD Server to the slave RCD Servers.
- 4. Note: Currently, the stack scheme does not support automatic data synchronization, and you need to manually synchronize the data. Otherwise, the Thin Clients may be unavailable or no IP address can be allocated to Cloud Desktops due to data inconsistency.
- 5. When multiple RCD Servers are stacked, you only need to connect each RCD Server to the network normally and no extra cable connections are required.
- 6. In stack deployment mode, if the link aggregation function is enabled for the NIC, it is recommended to enable link aggregation on the peer switch when the peer switch supports port aggregation. If the switch supports LACP, you can enable LACP on the corresponding server.

# **III. Operation Steps**

The following figure shows the topology of the stack deployment scheme (using the Cloud Desktop Campus Network and Thin Client Private Network as an example).



## Detailed configuration steps are as follows:

A: The link aggregation is not configured for the NIC of the RCD Server.

Step 1: Set a RCD Server that is successfully upgraded as the master RCD Server. Click **Config Wizard** to configure the system.

Note: Set the stack deployment position to local deployment.

Ruijie Cloud Class	$\langle \cdot \rangle$		Config Wizard	? Help
👩 Home Page			Total: 1 Server(s)	
🔞 Image	Install Software	<ul> <li>Create Image</li> </ul>		Se Se
(I) Classroom	<ul> <li>Default_Classroom</li> </ul>			
RCD Server	No Class	13	60	
💬 Message	Start Class	Image	Total Cloud Desktop	Active
System v	Cloud Desktop List		Batch Re	estart Ba
🛞 Maintenance 🗸	Cloud Desktop Name RCD Server	Image File Thin (	lient IP Thin Client MAC Virtual	l Interface Men

#### Welcome to RCD

RCD Server Network	
Configure LAN address for communication with Thin Clients.	Topology (Cloud Desktop & Thin Client Access Campus Network)
*LAN1 IP:	
* LAN2 IP :	
* Subnet Mask :	*****
* Gateway :	
* DNS : 114,114,114,114	1973 Barr Cardin Strain Cardina and The Cardina and C
Cloud Desktop and Teacher PC IP	CM Rainbow License
* Cloud Desktop Count : 60 🗘	Display SN Export SN
Cloud Desktop Start IP :	The license is imported.
* Teacher PC IP : 192.168.123.10	



#### Welcome to RCD

### Network Setting



Welcome to RCD								
	Other							
Cloud Desktop IP Static IP(Recommended) * Cloud Desktop Count : 60 * Cloud Desktop Start IP : 172.18.158.11 DHCP Start IP : 192.168.123.11 End IP : 192.168.123.254	Thin Client IP CMR Batch Config(Recommended) This mode will not generate configuration information on the RCD Server. DHCP * Start IP : 192.168.122.11 x * End IP : 192.168.122.254							
Teacher PC IP         * Teacher PC IP :         172.18.158.204         Enter the IP address of the Teacher PC with ClassManager         Rainbow installed.	Workspace         Deployed on RCD Server/Other Server         Workspace Server IP :         Enter the IP address of the RCD Server where Workspace is deployed.         Opployed Locally							
Back	Next							

Welcome to RCD	
	CM Rainbow License
	System Time: : 2016-10-26 17:22:42
	Display SN Export SN
	<ul> <li>Make sure that the system time is standard time.</li> <li>Incorrect time may affect the license validity period.</li> </ul>
	Import License
	Please enter Ruijie Product License System to apply for a license

After loading the license, click Next. The configuration of the master RCD Server is completed.

Back Next

Welcome to RCD	
	Info
System Setting Deploy Mode : Local Role : Master RCD Server NIC Mode : Normal Topology : Cloud Desktop accesses campus network. Thin Client accesses private network.	Network Setting           LAN1 IP : 192.168.122.1           LAN2 IP : 192.168.122.2           Subnet Mask : 255.255.255.0           WAN IP : 172.18.158.201           Subnet Mask : 255.255.255.0           Gateway : 172.18.158.1           DNS : 114.114.114.114
Other Cloud Desktop IP : Static IP Cloud Desktop Count : 60	CM Rainbow License
Cloud Desktop Start IP : 172.18.158.11 Thin Client IP : DHCP Thin Client IP Range : 192.168.122.11-192.168.122.254	
Back	ОК

Step 2: Set other RCD Servers as slave RCD Servers by referring to Step 1.







Step 3: On the master RCD Server, click Add, and add the slave RCD Servers in sequence.

#### Note: If multiple slave RCD Servers exist, repeat this operation to add them all.

Rujie Cloud Class	$\langle \rangle$					🔅 Cor	nfig Wizard	? Help	C	About	8 admin	logout
	RCD Server List											
											Action	
	Master RCD Ser	v RG-RCD6000 V2	192.168.122.1	1 share / *****	Reset Edit	lessons	/ ***** <u>Re</u>	set Edit I	Normal		Collect Log Config Net	
🔁 RCD Server	Slave	RG-RCE	Shave	Name :	Slave			lit I	Normal		Edit Delete	
Dessage				* IP :	192.168.122.3	~	-					
		-		Slave II -	192.168.122.4	~		-				
		_	_		OK Cancel	_	-	_				

Step 4: On the main page of the master RCD Server, click **View** to display the status of the stacked RCD Servers. The RCD Servers are in the normal state. The stack mode deployment is completed.

Step 5: On the main page of the master RCD Server, click **Image** on the left navigation tree. Click **Sync** to access the synchronization page. Synchronize all images and shared directories.

Ruije Claud Class	$\langle \rangle$			( Config Wizard	(?) Help (i) Abou	t 🛛 admin
Home Page	Image List				Add Sync (	Jpload 👻 More
🧿 Image						
Classroom	Windows 7	Windows XP	Windows 7	Windows 7	Windows 7	
🗃 RCD Server	win7标准模板 Disk:40GB	winxp标准模板 Disk:40GB	hua64 Disk:20GB	win764位_hua Disk:20GB	win7-陈满花 Disk:20GB	
Message						
😫 System 🗸	Windows 7	Windows 7	Windows 7	Windows XP	Windows XP	
🛞 Maintenance 🗸	win7标准模板_2 Disk:20GB	win7高中模板 Disk:40GB	win764 Disk:20GB	winxp小学模板1 Disk:30GB	winxp标准模板_1 Disk:20GB	
🕥 Upgrade 🗸	Windows 7	Windows XP	Centos			
	win/标准模板_teacher Disk:30GB	winxp初中模板_1 Disk:20GB	centos-花 测试 Disk:20GB			😡 Admii

Step 6: Click **Start** to synchronize the images and shared directories.

Ruijie Cloud Class	$\overline{\langle}$			Config Wizard	? Help	(i) About	8 admin	logout
\land Home Page	192.168.122.3 Sync Image to Slave Server [192.	168.122.3]				Tas	sk View Back	
🔕 Image	Image Name/Directory	File	Destination IP	Start Time E	nd Time Pr	ogress/Result	Action	
	Shared File				Re	ady	Start	
🔁 RCD Server	centos-花 测试	centos1.base			Re	ady	Start	
Dessage	hua64	hua64.base			Re	ady	Start	
😫 System 🗸	win764	win764.base			Re	ady	Start	

Step 7: On the main page of a slave RCD Server, click **Image** on the left navigation tree. Click **More** and select **Refresh**. The data synchronized from the master RCD Server is displayed. At this time, the configurations, images, and directories in this stack are all synchronized.

Ruijie Cloud Class	$\overline{\langle}$			🚯 Config Wizard	? Help (i) Abo	ut Radmin log
🛞 Home Page	Image List				Add Sync	Upload - More -
🧿 Image						ISO Refresh
Classroom	Windows 7	Windows XP	Windows 7	Windows 7	Windows 7	Backup
😰 RCD Server	win7标准模板 Disk:40GB	winxp标准模板 Disk:40GB	hua64 Disk:20GB	win764位_hua Disk:20GB	win7-陈满花 Disk:20GB	
Message						
😮 System 🗸	Windows 7	Windows 7	Windows 7	Windows XP	Windows XP	

Step 8: Configure the NIC address for the ClassManager\_Teacher.

Note: The NIC IP address of the ClassManager\_Teacher needs to be set to the campus network IP address and consistent with the IP address of the ClassManager\_Teacher configured on the master RCD Server. To set the gateway of the campus network, click **Advanced** and add the secondary IP address of the private network.

Internet Protocol Version 4 (TCP/IPv4) Properties							
General							
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.							
Obtain an IP address automatically							
• Use the following IP address:							
IP address:	172 . 18 . 158 . 204						
Subnet mask:	255 .255 .255 . 0						
Default gateway:	172 . 18 . 158 . 1						
Obtain DNS server address auton	natically						
• Use the following DNS server add	resses:						
Preferred DNS server:							
Alternate DNS server:	· · ·						
🔲 Validate settings upon exit	Advanced						
	OK Cancel						

Step 9: Configure the ClassManager\_Teacher on the teacher PC. Set **RCD Server IP** to the IP address of the RCD Server used to access the campus network.

RCC Settings	_ 🗆 ×
Basic Settings Layout Settings	
RCD Server IP:	172. 18. 158. 201 *
Workspace Path:	C:\Users\Administrator\Desktop\Homework Browse *
Sign-in Record:	Auto Save(Auto saved after sign-in ends)     Save last     100 day(s) record     Details
	Manual Save(click absent students to save)
RCD Shutdown:	O Show      Hide     (This function is in Remote Shutdown)
	Run at Startup
	Save Cancel

Step 10: Configure Thin Clients in batches on the ClassManager.

Note: Set **RCD Server IP** to the IP address of the first network port on the master RCD Server.

Thin client Se	ettinas			×
	Batch Config	×	Pate	- Doloto
1 Se	Name Rule          Number :       1-1         Rule :       box       + Number ③         Resolution ?       •         Resolution :       1600 * 900 •         Refresh Rate :       60HZ •         Ø RCD Server IP         RCD Server IP :       192.168.122.1         Power Supply ?         Auto Power On :       Start •	Network Address  Obtain an IP address automatically  Use the following IP address  Start IP: 192.168.122.11  Subnet Mask: 255.255.255.0 Default Gateway: 192.168.122.1 Obtain a DNS server address automatically Obtain a DNS server address Preferred DNS Server : 114.114.114.114 Alternate DNS Server : 114.114.114.114	nt IP 58.11	Action Edit

B. The link aggregation is configured for the NIC of the RCD Server.

Step 1: Set a RCD Server that is successfully upgraded as the master RCD Server. Click Config Wizard to configure the system. Note: Set the stack deployment position to local deployment.

Ruijie Cloud Class	$\checkmark$		😰 Config Wizard	? Help i About 8 admin
👩 Home Page			Total: 2 Server(s), 0 Warnir	ng
🖲 Image	Install Software	O Create Image		0 Warning
Classroom	<ul> <li>Default_Classroom</li> </ul>			•Class Ongoing •No Cl
🖻 RCD Server	No Class	13	5	2
🐵 Message	Start Class	Image	Total Cloud Desktop	Active Cloud Desktop
Sustam				
- System V	Cloud Desktop List		Batch Re	estart Batch Shutdown Shutdown Thin G
	Cloud Desktop Name RCD Server	Image File Thin C	lient IP Thin Client MAC Virtua	Interface Memory (MB) Action





Welcome to RCD

#### Other

,
This mode will not generate configuration information on the RCD Server.  DHCP  Start IP: 192.168.122.11  End IP: 192.168.122.254
Workspace         Deployed on RCD Server/Other Server         Workspace Server IP :         Enter the IP address of the RCD Server where Workspace is deployed.         Opployed Locally

	CM R	ainbow License	
	System Ti	me: : 2016-10-28 10:40:56	
	Display SN Export SN		
	<ul> <li>Make sure that the</li> <li>Incorrect time may</li> </ul>	system time is standard time. affect the license validity period.	
	Humport License		
	✓ The license is im	ported.	
	Please enter Ruijie Prod	uct License System to apply for a license	
	Ba	ck Next	
ne to RCD	Ba	ck Next Info	
ne to RCD ystem Setting	Ba	ck Next Info Network Setting	
ne to RCD ystem Setting Deploy Mode : Local	Ba	ck Next Info Network Setting AP IP : 192.168.122.1	
re to RCD ystem Setting Deploy Mode : Local Role : Master RCD Serv	er	ck Next Info Network Setting AP IP : 192.168.122.1 Subnet Mask : 255.255.0	
ne to RCD ystem Setting Deploy Mode : Local Role : Master RCD Serv NIC Mode : Link Aggregation	er 1	ck Next Info Network Setting AP IP : 192.168.122.1 Subnet Mask : 255.255.255.0 WAN IP : 172.18.158.201 Subnet Mark : 255.255.0	
ne to RCD ystem Setting Deploy Mode : Local Role : Master RCD Serv NIC Mode : Link Aggregation LACP : Disable Topology : Cloud Deskton a	Per 1	ck Next Info Network Setting AP IP : 192.168.122.1 Subnet Mask : 255.255.255.0 WAN IP : 172.18.158.201 Subnet Mask : 255.255.255.0 Gataway : 172.18.158.1	
ne to RCD ystem Setting Deploy Mode : Local Role : Master RCD Serv NIC Mode : Link Aggregation LACP : Disable Topology : Cloud Desktop a network. Thin Cli network.	rer 1 ccesses campus ient accesses private	ck Next Info Network Setting AP IP : 192.168.122.1 Subnet Mask : 255.255.255.0 WAN IP : 172.18.158.201 Subnet Mask : 255.255.255.0 Gateway : 172.18.158.1 DNS : 114.114.114.114	
ne to RCD ystem Setting Deploy Mode : Local Role : Master RCD Serv NIC Mode : Link Aggregation LACP : Disable Topology : Cloud Desktop a network. Thin Cli network.	rer 1 ccesses campus ient accesses private	ck Next  Info  Network Setting AP IP : 192.168.122.1 Subnet Mask : 255.255.255.0 WAN IP : 172.18.158.201 Subnet Mask : 255.255.255.0 Gateway : 172.18.158.1 DNS : 114.114.114.114	
he to RCD ystem Setting Deploy Mode : Local Role : Master RCD Serv NIC Mode : Link Aggregation LACP : Disable Topology : Cloud Desktop a network. Thin Cli network. ther loud Desktop IP : Static IP	Per n ccesses campus ient accesses private	ck Next Info Network Setting AP IP : 192.168.122.1 Subnet Mask : 255.255.255.0 WAN IP : 172.18.158.201 Subnet Mask : 255.255.255.0 Gateway : 172.18.158.1 DNS : 114.114.114.114	
re to RCD vertem Setting Deploy Mode : Local Role : Master RCD Serv NIC Mode : Link Aggregation LACP : Disable Topology : Cloud Desktop a network. Thin Cli network. Thin Cli network. ther loud Desktop IP : Static IP loud Desktop Count : 60	er n ccesses campus ient accesses private	k Next Info Network Setting AP IP : 192.168.122.1 Subnet Mask : 255.255.255.0 WAN IP : 172.18.158.201 Subnet Mask : 255.255.255.0 Gateway : 172.18.158.1 DNS : 114.114.114.114 CCM Rainbow License ✓ The license is imported.	
he to RCD vstem Setting Deploy Mode : Local Role : Master RCD Serv NIC Mode : Link Aggregation LACP : Disable Topology : Cloud Desktop a network. Thin Cli network. ther loud Desktop IP : Static IP loud Desktop Count : 60 loud Desktop Start IP : 172.18.1	rer n ccesses campus ient accesses private	ck Next  Info  Network Setting AP IP : 192.168.122.1 Subnet Mask : 255.255.255.0 WAN IP : 172.18.158.201 Subnet Mask : 255.255.255.0 Gateway : 172.18.158.1 DNS : 114.114.114.114  CM Rainbow License  ✓ The license is imported.	
ne to RCD ystem Setting Deploy Mode : Local Role : Master RCD Serv NIC Mode : Link Aggregation LACP : Disable Topology : Cloud Desktop a network. Thin Cli network. ther loud Desktop IP : Static IP loud Desktop Count : 60 loud Desktop Start IP : 172.18.1 Thin Client IP : DHCP	eer 1 ccesses campus ient accesses private 58.11	ck Next Info Network Setting AP IP : 192.168.122.1 Subnet Mask : 255.255.255.0 WAN IP : 172.18.158.201 Subnet Mask : 255.255.255.0 Gateway : 172.18.158.1 DNS : 114.114.114 CM Rainbow License ✓ The license is imported.	

Step 2: Set other RCD Servers as slave RCD Servers by referring to Step 1.





stem Setting	Network Setting
Deploy Mode : Local	AP IP: 192.168.122.3
Role : Slave RCD Server	Subnet Mask : 255.255.255.0
NIC Mode : Link Aggregation	WAN IP : 172.18.158.200
LACP : Disable	Subnet Mask : 255.255.255.0
Topology : Cloud Desktop accesses campus	Gateway: 172.18.158.1
network. Thin Client accesses private network.	DNS: 114.114.114

Back OK

Step 3: On the master RCD Server, click Add to add the slave RCD Servers in sequence.

Note: If multiple slave RCD Servers exist, repeat this operation to add them all.

Add Slave		×
Name :	Slave RCD	]
* IP :	192.168.122.3	
* Slave IP :		
	OK Cancel	

Step 4: On the main page of the master RCD Server, click **View** to display the status of the stacked RCD Servers. The RCD Servers are in the normal state. The stack mode deployment is completed.

RCD Server Status							×
Name	Resource Usage					Status	Action
127.0.0.1 <b>()</b> IP:192.168.122.1	2 CPU(%)	7 Memory(%)	OS Partition(GB): 174.6/210.3	Data Partition(GB): 73.9/820.6 Cache Partition(GB): 8.8/440.0	Cloud Desktop Count: 2/65	Normal	Reboot Shutdown
Slave 1 IP:192.168.122.3	1 CPU(%)	2 Memory(%)	OS Partition(GB): 137.0/137.0	Data Partition(GB): 49.2/820.6	Cloud Desktop Count: 0/35	Fault	Reboot Shutdown

Step 5: On the main page of the master RCD Server, click **Image** on the left navigation tree. Click **Sync** to access the synchronization page. Synchronize all images and shared directories.

Ruijie Cibud Class	$\langle \rangle$			( Config Wizard	? Help (i) Abou	t 🔗 admin logi
🗑 Home Page	Image List				Add Sync L	Jpload • More •
lmage						
Classroom	Windows 7	Windows XP	Windows 7	Windows 7	Windows 7	
RCD Server	win7标准模板 Disk:40GB	winxp标准模板 Disk:40GB	hua64 Disk:20GB	win764位_hua Disk:20GB	win7-陈满花 Disk:20GB	
Message						
🕃 System 🗸	Windows 7	Windows 7	Windows 7	Windows XP	Windows XP	
🛞 Maintenance 🗸 🗸	win7标准模板_2 Disk:20GB	win7高中模板 Disk:40GB	win764 Disk:20GB	winxp小学模板1 Disk:30GB	winxp标准模板_1 Disk:20GB	
🕥 Upgrade 🗸 🗸			raina			
	Windows 7	Windows XP	Centos			
	win7标准模板_teacher Disk:30GB	winxp初中模板_1 Disk:20GB	centos-花 测试 Disk:20GB			🕞 Admin-Too

Step 6: Click Start to synchronize the images and shared directories.

Rujie Cloud Class	$\langle \rangle$				🔅 Config Wizard	? Help	i About	A admin logou
lome Page	192.168.122.3 Sync Image to Slave Server	[192.168.122.3]					Task	View Back
💿 Image	Image Name/Directory	File	Destination IP	Start Time	End Tim	e	Progress/Resu	It Action
Classroom	Shared File		192.168.122.3	2016-10-2	8 11:08:43		35% (80.16MB/s)	Stop
(言) RCD Server	centos-花 测试	centos1.base					Ready	Start

Step 7: On the main page of the slave RCD Server, click **Image** on the left navigation tree. Click **More** and select **Refresh**. Then, data synchronized from the master RCD Server is displayed. At this time, the configurations, images, and directories in this stack are all synchronized.



Step 8: Configure the NIC address for the ClassManager\_Teacher PC.

Note: The NIC IP address of the ClassManager\_Teacher needs to be set to the campus network IP address and consistent with the IP address of the ClassManager\_Teacher configured on the master RCD Server. To set the gateway of the campus network, click **Advanced** and add the secondary IP address of the private network.

Internet Protocol Version 4 (TCP/IPv4)	Properties
General	
You can get IP settings assigned autor this capability. Otherwise, you need to for the appropriate IP settings.	matically if your network supports ask your network administrator
🔘 Obtain an IP address automatical	ly
O Use the following IP address:	
IP address:	172 . 18 . 158 . 204
Subnet mask:	255 .255 .255 . 0
Default gateway:	172 . 18 . 158 . 1
Obtain DNS server address auton	natically
Ose the following DNS server add	Iresses:
Preferred DNS server:	
Alternate DNS server:	· · ·
Validate settings upon exit	Advanced
	OK Cancel

Step 9: Configure the ClassManager\_Teacher on the teacher PC. Set **RCD Server IP** to the IP address of the RCD Server used to access the campus network.

RCC Settings	_ <b>_</b> ×
Basic Settings Layout Settings	
RCD Server IP:	172. 18. 158. 201
Workspace Path:	C:\Users\Administrator\Desktop\Homewor}
Sign-in Record:	<ul> <li>Auto Save(Auto saved after sign-in ends)</li> <li>Save last 100 day(s) record Details</li> </ul>
	OManual Save(click absent students to save)
RCD Shutdown:	O Show  Hide (This function is in Remote Shutdown)
	Run at Startup
	Save Cancel

Step 10: Configure Thin Clients in batches on the ClassManager.

Note: Set **RCD Server IP** to the IP address of the aggregate port on the master RCD Server.

	1	×
×		
<ul> <li>Network Address</li> <li>Obtain an IP address automatically</li> <li>Use the following IP address Start IP : 192.168.122.11</li> <li>Subnet Mask : 255.255.255.0</li> <li>Default Gateway : 192.168.122.1</li> <li>Obtain a DNS server address automatically</li> <li>Use the following DNS server address</li> <li>Preferred DNS Server : 114.114.114.114</li> <li>Alternate DNS Server :</li> </ul>	nt IP 58.11	Action Edit
	Network Address  Obtain an IP address automatically  Use the following IP address  Start IP: 192.168.122.11  Subnet Mask: 255.255.255.0 Default Gateway: 192.168.122.1 Obtain a DNS server address automatically Use the following DNS server address Preferred DNS Server : 114.114.114.114 Atternate DNS Server : 114.114.114.114 Cancel	Network Address     Obtain an IP address automatically     Use the following IP address     Start IP : 192.168.122.11     Subnet Mask : 255.255.0 Default Gateway : 192.168.122.1      Obtain a DNS server address automatically     Use the following DNS server address Preferred DNS Server : 114.114.114.114 Atternate DNS Server : 114.114.114

## Note:

- 1. In local deployment mode (including the stack mode), if you configure the link aggregation for the NIC of the RCD Server, ensure that the switch supports link aggregation and link aggregation is configured on the switch.
- 2. In stack mode, if you enable LACP for the NIC of the RCD Server, ensure that the switch supports LACP and LACP is configured on the switch, and set LACP mode of the switch port to passive mode.
- 3. Different from the cluster mode, the stack mode supports NAT and DHCP services.
- 4. The PA authorization in stack mode is relatively special. You need to import the license files of all RCD Servers to the master RCD Server in a unified manner.
- 5. In stack mode, if the master RCD Server breaks down, all Thin Clients cannot connect to the RCD Server, because the RCD Server IP address configured for the Thin Clients can be only set to the IP address of the master RCD Server.
- 6. The port connected to the NIC of the RCD Server and the network deployed in a classroom need to be connected to a 1000M or higher-level switch.
- 7. The stack scheme does not support automatic data synchronization, and you need to manually synchronize the data. Otherwise, the Thin Clients may be unavailable or no IP address can be allocated to Cloud Desktops due to data inconsistency.
- 8. Different classrooms cannot be created in stack mode but can be in cluster mode.

# 6.3 Cluster Deployment

# I. Scenario Description

To meet load balancing and failover requirements in RCC teaching scenarios, the cluster deployment scheme is unveiled, which has the following features:

- 1. It breaks through the barriers of the single-classroom deployment in conventional cloud class solution, and supports multiple RCD Servers shared by multiple classrooms.
- 2. Load balancing: Cloud Desktops allocated by the master RCD Server to Thin Clients in each classroom are evenly distributed to each computing node, including the master and slave RCD Servers.
- 3. Redundancy of computing nodes: When the master engine detects a fault on a computing node, the master engine distributes the services borne by the faulty computing node to other computing nodes.
- 4. Recovery of the computing node: When the master engine detects the recovery of the faulty computing node, it adds the recovered computing node to the server cluster again and distributes services to the recovered computing node.
- 5. HA switchover between active and standby nodes: When the active node is faulty and cannot provide services, the standby node automatically becomes the active node and continues to provide services. After the previous active node is recovered, the previous active automatically becomes the standby node and monitors the heartbeat of the active node.

## II. Key Configuration Points

- 1. In cluster deployment mode, configure the slave RCD Servers and then configure the master RCD Server.
- 2. Check the network environment. The switch connecting to the RCD Servers must be a 1000M switch and supports the port aggregation function. On the switch, two independent VLANs can be independently planned for each classroom, with one for Thin Clients and one for Cloud Desktops, and one separate VLAN can be planned for the RCD Server. Setting independent VLANs for Thin Clients and Cloud Desktops is to protect the Cloud Desktops against viruses (ARP attack).
- 3. Upgrade the RCD Server and Thin Clients to the latest versions.

Note: Thin Clients (non-Android system) of a version earlier than V3.1\_R1.11 do not support fast upgrade but rely on the iPXE and PXE technologies. It is recommended that one independent RCD Server be configured to enable the DHCP server. You can upgrade different Thin Clients by means of network adjustment. Thin Clients of V3.1\_R1.11 and later versions support fast upgrade. Therefore, the DHCP function is not required.

 It is recommended to configure the master and slave RCD Servers and computing nodes by following the configuration wizard for a new network. Add slave RCD Servers and computing nodes on the master RCD Server. Do not enable the HA service in the configuration wizard.

Note: If the HA service is required, you are recommended to configure the IP address of the slave RCD Server and then enable the HA service on the master RCD Server to automatically synchronize the HA service between the master and slave RCD Servers.

- 6. The static IP addresses are recommended for Thin Clients and Cloud Desktops, because static IP addresses can reduce the number of L2 and L3 entries on the DHCP server on the campus network.
- 7. When you establishing a new classroom, you are suggested to select common RCD Servers from computing nodes.
- 8. In cluster mode, you need to import license files of all RCD Servers to the master RCD Server in a unified manner during the PA authorization, instead of adding the license files to the computing nodes and slave RCD Servers.

Note: For the precautions, see Note at the end of this chapter.

## **III. Operation Steps**

The following figure shows the topology of the cluster deployment scheme (VLANs and IP addresses are only for reference and subject to the actual network).



## Server configuration:

Step 1: In cluster deployment, you must upgrade the RCD Servers and Thin Clients before establishing the cluster mode. (You can only update images on the master RCD Server and then synchronize the images to other RCD Servers.)

Step 2: Set a RCD Server that is successfully upgraded as the slave RCD Server. Click **Config Wizard** to configure the system.



- i ypica		
	•	
Click Next to	enter a wizard to perform advanced configuration.	
Configure	e LAN address for communication with Thin	Topology (Cloud Desktop & Thin Client Access Campus Network)
clients.		IDLALD UPPERSON
*		
* Subn	et Mask :	*****
* (	Gateway :	
	* DNS : 114.114.114	99. Biol Control for the Control for the Annual State Annual Annua
Cloud De	sktop and Teacher PC IP	CM Rainbow License
* Cloud	Desktop Count : 60 🗘	Display SN Export SN
* Cloud D	esktop Start IP :	Please enter Ruijie Product License System to apply for a license
,	* Teacher PC IP :	
iomo to Br	Back	OK Cancel
come to RC	Back	OK Cancel System
come to RC Deploy	CD Local	OK Cancel System Cluster
come to RC Deploy Mode	ED Local The RCD Server is deployed in the classroom on same network with Thin Clients.	OK       Cancel         System       Cluster         the       The RCD Server is deployed in the data center room.
come to RC Deploy Mode Role	ED Local The RCD Server is deployed in the classroom on same network with Thin Clients. Master RCD Server	OK       Cancel         System       Cluster         the       The RCD Server is deployed in the data center room.         Slave RCD Server
come to RC Deploy Mode Role	ED Local The RCD Server is deployed in the classroom on same network with Thin Clients. Master RCD Server Web interface and Cloud Desktop service are pro Only one master RCD Server is allowed in an environment.	OK       Cancel         System <ul> <li>Cluster</li> <li>The RCD Server is deployed in the data center room.</li> </ul> the       The RCD Server is deployed in the data center room.         Image: Slave RCD Server           ovided.       Only Cloud Desktop service is provided.
Deploy Mode Role	CD CD Cocal The RCD Server is deployed in the classroom on same network with Thin Clients. Master RCD Server Web interface and Cloud Desktop service are pre Only one master RCD Server is allowed in an environment. Normal Normal	OK       Cancel         System <ul> <li>Cluster</li> <li>the           <li>The RCD Server is deployed in the data center room.</li> </li></ul> the         Slave RCD Server           ovided.         Only Cloud Desktop service is provided.           Image: Clust Aggregation         Image: Clust Aggregation
Deploy Mode Role	CD  Local  The RCD Server is deployed in the classroom on same network with Thin Clients.  Master RCD Server Web interface and Cloud Desktop service are pre Only one master RCD Server Web interface and Cloud Desktop service are pre Only one master RCD Server is allowed in an environment.  Normal With better compatibility, this mode allows the F Server to connect to a switch incapable of networ management. Each LAN port should be configur	OK       Cancel         System <ul> <li>Cluster</li> <li>the           <li>The RCD Server is deployed in the data center room.</li> <li>Slave RCD Server</li> </li></ul> ovided.       Only Cloud Desktop service is provided.         ovided.       Only Cloud Desktop service is provided.         RCD ork ed with       With better redundancy and load balance performance, this mode is recommended. It should be enabled on interfaces of LACP-supported switches, including most
Deploy Mode Role	CD CD CD CLocal The RCD Server is deployed in the classroom on same network with Thin Clients. Master RCD Server Web interface and Cloud Desktop service are pre Only one master RCD Server Web interface and Cloud Desktop service are pre Only one master RCD Server is allowed in an environment. Normal With better compatibility, this mode allows the F Server to connect to a switch incapable of networ management. Each LAN port should be configur an IP address.	OK       Cancel         System <ul> <li>Cluster</li> <li>the</li> <li>The RCD Server is deployed in the data center room.</li> <li>Slave RCD Server</li> </ul> ovided.       Only Cloud Desktop service is provided.         ovided.       Only Cloud Desktop service is provided.         RCD ork ed with



Step 3: Set a RCD Server that is successfully upgraded as the master RCD Server. Click **Config Wizard** to configure the system.

Welcome to RCD





Back	Next	



elcome to RCD	
	CM Rainbow License
	System Time: : 2016-08-23 10:09:28
	Display SN Export SN
	<ul> <li>Make sure that the system time is standard time.</li> <li>Incorrect time may affect the license validity period.</li> </ul>
	🜩 Import License
L	Please enter Ruijie Product License System to apply for a license
	Back Next
Icomo to PCD	
come to RCD	
	Info
System	Network Config
Cluster : Cluster	IP:172.21.112.185
Role Master RCD Serve	er Subnet Mask : 255.255.2
NIC Mode : Link Aggregation	Gateway : 172.21.112.1
LACP : Disable	DNS: 114.114.114
На	CM Rainbow License
Virtual Server IP : 172.21.112.12	
Slave RCD Server IP :	
Subnet Mask : 255,255,255.0	<b>U</b>
SUDIELIVIASK · ZJJ.ZJJ.ZJJ.U	

After the configuration is complete, this RCD Server is configured as the master RCD Server.

Step 4: On the master RCD Server, click Add and add slave RCD Servers in sequence.

Reference IP: 172.21.112.1

Virtual Router ID: 10

may not run properly.

Ruijie Cloud Class		Config Wizard (?) Help (i) About
🛞 Home Page	RCD Server List	
🔞 Image	FTP Username/Password for Shared- Name Model IP partition	
(I) Classroom	Master RCD Serv RG-RCD6000         192.168.122.1 share / ******         Reset Edit           er         V2         Add Slave	lessons / ****** <u>Reset Edit</u> Normal <u>Details</u>
RCD Server	Name:	
Dessage	• IP :	
😭 System 🗸		
🛞 Maintenance 🗸	OK Cancel	
🕥 Upgrade 🗸 🗸		

Create a classroom, bind the RCD Servers to the classroom, set the IP address of the ClassManager\_Teacher, VLAN ID of the Cloud Desktops, and IP address range of the Thin Clients.

If there are multiple slave RCD severs and multiple classrooms, repeat the preceding operation.

Step 5: Set the number of Cloud Desktops for each classroom.

## Note:

- 1. In cluster deployment mode, you can configure only the link aggregation for the NIC of the RCD Server, and ensure that the switch supports link aggregation and link aggregation is configured on the switch.
- 2. In cluster mode, if you enable LACP for the NIC of the RCD Server, ensure that the switch supports LACP and LACP is configured on the switch, and set LACP mode of the switch port to passive mode.
- 3. In cluster mode, the NAT and DHCP services are unavailable.
- 4. In cluster mode, iPXE and PXE upgrade is not supported. Upgrade is supported since V3.25 and it no longer relies on the DHCP service of the RCD Server.
- 5. In cluster mode, you need to allocate different VLANs for each classroom, and it is strongly recommended that the VLAN of the Thin Clients is different from that of Cloud Desktops in the same classroom.
- 6. In cluster mode, set IP addresses of Thin Clients and Cloud Desktops to the IP address of the campus network.
- 7. RCD Servers in the cluster must be within the same VLAN.
- 8. Parameters of the HA service must be consistent on the master RCD Server and slave RCD Server. You can configure the HA service parameters in advance. After the HA service is enabled and configured on the master RCD Server, the parameter configuration will be automatically synchronized to the slave RCD Server.

- 9. The IP addresses of RCD Servers connecting to all Thin Clients and ClassManager\_Teacher PC must be set to the IP address of the master RCD Server. If the HA service is enabled, IP addresses of RCD Servers connecting to all Thin Clients and ClassManager\_Teacher PC must be set to the virtual floating IP address of the HA service.
- 10. The port connected to the NIC of the RCD Server and the network deployed in a classroom need to be connected to a 1000M or higher-level switch.
- 11. The PA authorization in cluster mode is relatively special. You need to import the license files of all RCD Servers to the master RCD Server in a unified manner.

# 6.4 One-click Deployment

## I. Scenario Description

The one-click deployment function can eliminate tedious and repetitive work for configuring Rain Thin Clients one by one. You can use the RCC-Teacher or RG-ClassManager Rainbow to configure all Thin Clients in the classroom in a unified manner, including the number, RCD Server name, resolution, RCD Server address, and IP address.

The one-click deployment function is not only used for the first deployment, but can be also used for actual teaching activities and PC equipment room maintenance. For example, it can be used to modify the resolution in batches (certain software has special resolution requirements) and replace faulty Thin Client components, thereby rapidly addressing problems of users.

## II. Key Configuration Points

- 1. Before unified configuration, remove the external network cable from the ClassManager\_Teacher PC, to prevent the ClassManager\_Teacher PC from scanning Thin Clients in other classrooms.
- 2. During automatic numbering, if the prompt requesting you to press **Enter** is not displayed on the Thin Client, access the batch configuration and correctly set the IP address of the RCD Server. Then, automatic numbering starts.
- 3. Automatic numbering is not mandatory. Generally, numbering Thin Clients is required only when IP addresses are bound with the numbers.

## III. Operation Steps

The one-click deployment function of the latest version is integrated into the ClassManager\_Teacher. For versions earlier than V1.1, the RCC-Teacher software can be used to uniformly configure the Thin Clients. Functions between earlier and later versions are basically the same except the function entrance.

1. Start all Thin Clients, start the ClassManager\_Teacher, and access the unified configuration menu.



## 2. Click Scan.

) Т	hin clien	t Sett	ings							×
	1	Scan					Ren	umber Ba	tch Config Batc	h Delete
	Number	State	MAC	_	Host Name	Resolution	RCD Server IP	ІР Туре	Thin Client IP	Action
•	1		58:69:6	Tips				×	172.18.158.11	Edit
					Plea oth OK.	ase power ( er classroo OK	off thin clients in ms and then cli <sup>Cancel</sup>	n ck		

As shown in the following figure, one Thin Client is scanned.

Th	in clien	t Setti	ings						×
		Scan				Renu	mber Batcl	h Config Batch	Delete
~	Number	State	MAC	Host Name	Resolution	RCD Server IP	IP Туре	Thin Client IP	Action
~	1		58:69:6C:3E:39:B2	Tbox-02	1600 * 900 32bit 60HZ	172.18.158.201	Static	172.18.158.11	Edit

3. Click **Renumber** To assign sequence numbers to Thin Clients identified during scanning.



Click Start. A numbering page is displayed. Wait Thin Clients to send numbering commands.



A page as shown in the following figure is displayed. Press **Enter** in sequence to generate the sequence number.



Press Enter.



After all Thin Clients are numbered, the numbering page automatically disappears, indicating the numbering operation is complete. You can also click **Stop** to stop manual assignment. Then, the software automatically assigns sequence numbers to remaining Thin Clients.

Note: If the automatic numbering page is not displayed on a Thin Client, access the **Batch Config** page to change the IP address of the RCD Server. **Select RCD Server IP only here**. Then, start automatic numbering.

Vame Rule	Vetwork Address
Number : 1-2	<ul> <li>Obtain an IP address automatically</li> <li>Ose the following IP address</li> </ul>
Rule : box +Number 💿	Start IP : 172.18.158.111
Resolution 📀	Subnet Mask : 255.255.255.0
Resolution : 1600 * 900 -	Default Gateway : 172.18.158.1
Refresh Rate : 60HZ -	
RCD Server IP	<ul> <li>Obtain a DNS server address automatically</li> <li>Ose the following DNS server address</li> </ul>
RCD Server IP : 172.18.158.201	Preferred DNS Server : 114.114.114.114
Power Supply ?	Alternate DNS Server :
uto Power On : Start 🔻	

4. After automatic numbering is completed, click **Batch Config** to configure **Name Rule**, **Resolution**, **RCD Server IP**, and **Network Address** for all selected Thin Clients.

Vame Rule	Vetwork Address
Number : 1-2	<ul> <li>Obtain an IP address automatically</li> <li>Use the following IP address</li> </ul>
Rule : box +Number 💿	Start IP : 172.18.158.111
Resolution ?	Subnet Mask : 255.255.255.0
Resolution : 1600 * 900 -	Default Gateway : 172.18.158.1
Refresh Rate : 60HZ -	
RCD Server IP	<ul> <li>Obtain a DNS server address automatically</li> <li>Obtain a DNS server address</li> </ul>
RCD Server IP : 172.18.158.201	Preferred DNS Server : 114.114.114.114
Power Supply 💡	Alternate DNS Server :
uto Power On : Start 🔻	

5. If Thin Clients are added or replaced, you can delete Thin Clients in batches and then re-scan Thin Clients for configuration.

Tł	nin clien	t Sett	ings							×
		Scan					Re	number Ba	ntch Config Batc	h Delete
~	Number	State	MAC		Host Name	Resolution	RCD Server IP	ІР Туре	Thin Client IP	Action
~	1	Ţ	58:69:6	Tips				×	172.18.158.11	Edit
					Are iter	e you sure t ns?	to delete the 1			
						ОК	Cancel			

6. You can also modify the configuration of a single Thin Client, including the Thin Client name, resolution, RCD Server IP address, and IP address.

Batch Config ×     I </th <th>Thin client</th> <th>Settinas</th> <th></th> <th>×</th>	Thin client	Settinas		×
1       S         ✓ Number S       Number : 1-1         ✓ 1       Number : 1-1         Rule : box + Number ③         ① Obtain an IP address automatically         ③ Use the following IP address         Start IP :         ③ Subnet Mask :         Default Gateway :         ③ Obtain a DNS server address automatically         ④ Use the following DNS server address         Preferred DNS Server :         Alternate DNS Server :		Batch Config	×	
Resolution ?   Resolution :   1600 * 900   Refresh Rate :   60HZ   Prefault Gateway : Obtain a DNS server address automatically Obtain a DNS server address Preferred DNS Server : Alternate DNS Server : Alternate DNS Server :	(1) S ▼ Number S ▼ 1 [	Vame Rule Number : 1-1 Rule : box +Number ④	<ul> <li>Network Address</li> <li>Obtain an IP address automatically</li> <li>Use the following IP address</li> <li>Start IP :</li> </ul>	Batch Delete nt IP Action 58.11 Edit
Image: RCD Server IP       Image: Obtain a DNS server address automatically         Image: RCD Server IP :       172.18.158.201         Image: Power Supply (?)       Obtain a DNS Server :         Image: RCD Server Supply (?)       Alternate DNS Server :		Resolution ? Resolution : 1600 * 900 ~ Refresh Rate : 60HZ ~	Subnet Mask : Default Gateway :	
Power Supply ? Alternate DNS Server :		RCD Server IP           RCD Server IP :           172.18.158.201	<ul> <li>Obtain a DNS server address automatically</li> <li>Use the following DNS server address</li> <li>Preferred DNS Server :</li> </ul>	
Auto Power On : Start  Apply Cancel		Power Supply ? Auto Power On : Start   Auto Power On : Start	Alternate DNS Server :	

# 6.5 RCD Server Binding

## I. Scenario Description

PCs are allocated with fixed numbers in most PC rooms. This method can help you easily find the PCs, identify faults, and locate student positions.

The RCC solution involves hardware Thin Clients and Cloud Desktops. By default, the boot sequence of Cloud Desktops, Cloud Desktop names, and allocated IP addresses are random. In such a case, a fixed number cannot be used to identify a specific device.

Therefore, the RCC solution provides the function of binding Rain Thin Clients with fixed numbers, thereby achieving multi-attribute binding and addressing the fixed numbering issues of the PC rooms.

For example:

Desktop numbers: 01, 02, 03, ...

Names of Rain Thin Clients: Rain01, Rain02, Rain03, ...

IP addresses of Rain Thin Clients: 192.168.122.11, 192.168.122.12, 192.168.122.13, ...

Names of Cloud Desktops: Stu01, Stu02, Stu03, ...

IP addresses of Cloud Desktops: 192.168.123.11, 192.168.123.12, 192.168.123.13, ...

After the Thin Clients are bound based on numbers, the following mapping is established: The name of the Thin Client on desktop 01 is Rain01, and the IP address is 192.168.122.11. After Cloud Desktop is started on the Thin Client, the name of the Cloud Desktop is fixed to Stu01, and the IP address of the Cloud Desktop is 192.168.123.111. The rest can be deducted by the same analog.

## II. Key Configuration Points

- 1. The Cloud Class of a version later than V1.0.9 supports the one-click deployment function and can rapidly deliver the binding relationship.
- 2. The binding sequence is determined based on the sequence of requests and responses transmitted between a Thin Client and the RCD Server. Therefore, it is recommended that one person be responsible for completing the binding in sequence, and bind another Thin Client only after a binding response is displayed on one Thin Client.
- 3. If the binding is out of order, missing, or incorrect, it is recommended to stop the current numbering and start numbering again (manual adjustment can cause errors easily).

## III. Operation Steps
### 1. Scan all Thin Clients.

> Tł	nin clien	t Sett	ings							×
	1	Scan					Renu	ımber Ba	tch Config Batc	h Delete
	Number	State	MAC		Host Name	Resolution	RCD Server IP	IP Туре	Thin Client IP	Action
	1		58:69:6	Tips				×	172.18.158.11	Edit
	Please power off thin clients in other classrooms and then click OK.									
						OK	Cancel			

2. Configure the Thin Clients in batches to set a correct RCD Server address for each Thin Client (for details, see one-click deployment mode), and then perform automatic numbering.



3. Number Rain Thin Clients one by one based on the fixed numbers (press **Enter**).



Obtain the numbers.



4. After the automatic numbering is completed, the Thin Clients obtain the corresponding numbers.

Т	Thin client Settings ×											
(	2	Scan				Renu	mber Batc	h Config Batch	Delete			
•	Numper	State	MAC	Host Name	Resolution	RCD Server IP	IP Type	Thin Client IP	Action			
•	1		58:69:6C:3E:39:B2	Tbox-02	1600 * 900 32bit 60HZ	172.18.158.201	Static	172.18.158.11	Edit			
~	2		00-E0-4C-5B-A2-0F	Tbox-01	1366 * 768 32bit 60HZ	172.18.158.201	Static	172.18.158.12	Edit			

5. Click **Batch Config**, and configure the RCD Server name and static IP address for each Thin Client. (The batch configuration takes a period of time.)

Batch Config	>				
🛛 🕅 Name Rule	Network Address     Obtain an IP address automatically				
Number : 1-2	Ose the following IP address				
Rule : Dox +Number	Start IP : 192.168.122.11				
Resolution ?	Subnet Mask : 255.255.255.0				
Resolution : 1600 * 900 -	Default Gateway : 192.168.122.1				
Refresh Rate : 60HZ 🔻					
	Obtain a DNS server address automatically     Obtain a DNS server address     Preferred DNS Server :				
Power Supply ?	Alternate DNS Server :				
Auto Power On : Start					
Apply	Cancel				

Wait until the configuration is completed.



6. Check whether the number, RCD Server name, and IP address are correct.

Tł	Thin client Settings										
	2	Scan				Renu	mber Batc	h Config Batch	Delete		
•	Number	State	MAC	Host Name	Resolution	RCD Server IP	ІР Туре	Thin Client IP	Action		
•	1		00-E0-4C-5B-A2-0F	Tbox-01	1368 * 768 32bit 60HZ	192.168.122.1	Static	192.168.122.11	Edit		
~	2		58:69:6C:3E:39:B2	Tbox-02	1600 * 900 32bit 60HZ	192.168.122.1	Static	192.168.122.12	Edit		

7. Access the RCD configuration page to create a Cloud Desktop.

Note: Static IP addresses must be configured for the Cloud Desktops.

Rujie Cloud Class	$\bigcirc$	Config Wizard ? Help i About
	Details Policy Edit Name : Default_Classroom RCD Server : <u>Master RCD Server</u>	Teacher PC IP : 172.18.158.204
	Description :	
Classroom	Cloud Desktop List Batch Add Cloud Desktop	X Add Add Delete
🕞 RCD Server	Cloud Desktop Na Cloud Desktop Na	IAC Thin Client Name Action
	Stu-05     • Name Start Value : 1     Cloud Desktop Start IP : 122.18.158.5	t Used Edit
	Stu-04 •Cloud Desktop Court : 5 × : Cloud Desktop Court : 5 × :	200 Max
	Stu-03	: Used Edit
	Stu-02 static 52:54:00:11:44:7F 172:18.158.5	192.168.122.12 58:69:6C:3E:39:B2 Tbox-02 Edit
	Stu-01 static 52:54:00:11:44:7E 172.18.158.6 🖛	192.168.122.11 00:E0:4C:5B:A2:0F Tbox-01 Edit

**8.** If the mapping of several Thin Clients is incorrect, power off these Thin Clients and remove them from the Cloud Desktop. Then, power on these Thin Clients in the correct sequence.

You can use the following methods to address the incorrect mapping issue:

- (1) Power off all Rain Thin Clients.
- (2) Remove the Rain Thin Clients from the Cloud Desktop to release the mapping.
- (3) Based on the numbering sequence, power on the Rain Thin Clients one by one (power on the next Thin Client after the current Thin Client is started). At this time, the Thin Client addresses of the Cloud Desktops are mapped.

Stu-02	static	52:54:00:11:44:7F	172.18.158.5	₩ 192.168.122.12 58:69:6C:3E:39:B2	Tbox-02	Edit More v
Stu-01	static	52:54:00:11:44:7E	172.18.158.6	<b>\$</b> 192.168.122.11 00:E0:4C:5B:A2:0F	Tbox-01	Edit More v

**Convergent Computing** 

### I. Scenario Description

The convergent computing software is used to satisfy the high graphics card performance requirements of certain software (especially the light 3D software such as iRobotQ) in RCC. The software is installed in the underlying system of the Thin Client. With the performance support of the Thin Client hardware, course requirements of certain 3D software are met to a certain extent.

#### Note:

- 1. The convergent computing software is only applicable to Rain Thin Clients using the Windows system as the underlying system.
- After the convergent computing function is enabled on a single Thin Client, you can create an image file on the RCD Server and upgrade all Thin Clients in PXE mode. For details, see "FAQ: Deployment – Configuring Batch Convergent Computing for Rain100/Rain200."

3. Because the underlying system of Thin Clients is the Windows system, you do not need to perform the PXE or iPXE upgrade for the Thin Clients if the entire version is upgraded.

### II. Key Configuration Points

- Because the hardware configuration of Rain Thin Clients is generally low (1–2 GB memory and 8 GB flash memory). Therefore, do not install too many applications or applications with a large capacity. Only certain small 3D software can be used.
- 2. You must install the convergent computing software in the underlying system of the Rain100 in advance, so that you can call the underlying executable program on the convergent computing page (program entrance).

### III. Operation Steps

Step 1: Upload the required convergent computing software. You can use the FTP service of the RCD Server to transfer the files.



Upload the required software, tool, and compatible package to the shared directory of the RCD Server.

6	🔋 RCD Server Image	e Directory - C	onnected - R	uijieFTP			_			\$	
	local site: C:\				remote site:	1				-	
ſ	Filename	Filesize	Filetype	Last modified	*	Filename	Filesize	Filetype	Last modified	Permissio	^
	퉬 \$Recycle.Bin		文件夹	2016/5/30 22:36:		J					

Step 2: Call the underlying system window to install the software.

- 1. On the RG-Rain Cloud Desktop list window, press **Shift+S+F8** (the shortcut key is subject to changes. You can contact hotline 4008111000 to learn the shortcut key) to access the underlying OS.
- In Task Manager, create a task and enter ftp://share:share@192.168.1.100 (the address shall be set to the master IP address of the RCD Server). Obtain the software uploaded to the shared directory, for example, Numerical control vehicle2008-r1.1.rar.
- 3. After the file is copied, in the new task manager, enter C:\ to display the following information corresponding to Rain100 (flash drive: 8 GB; Drive C: 5.85 GB; Drive E: 1.58 GB).

Step 3: Copy the file to Drive C or Drive E, and install the software.

After the installation is completed, close the underlying OS window. The detailed software installation process is not described here.

Step 4: Call the convergent computing software.

1. Access the Cloud Desktop system, click **Convergent Computing** on the floating bar, and enter **Shift+R+F8**. The extension management page is displayed.



Step 5: If multiple software needs to be installed, repeat the preceding installation steps.

Click Add and locate the installed executable program. Save the settings and exit the software.

Step 6: Click Convergent Computing to call the responding external program.



## 6.6 Examination Scenario

### I. Scenario Description

Due to the particularity of various examinations, some examination software has special requirements for systems, for example:

- 1. The examination systems require that static IP addresses be configured for the OSs and students need to log in to the system using different user names.
- 2. After an examination ends, the system content must be retained for a period of time for later review.

With respect to the preceding requirements, Ruijie has optimized the configuration for the Cloud Desktop systems.

### II. Key Configuration Points

- 1. Generally, the same set of devices are used for both examinations and teaching. Therefore, special configurations are required for the switching from the teaching scenario to the examination scenario and even examination images need to be added.
- 2. Generally, the persistent data storage policy is set for examination images. Therefore, examination images are not recommended for the teaching scenario since it easily causes disk space insufficiency and cloud class system instability.

Note: There is no special examination image. The examination image mentioned here refers to an image created for examinations or an image configured with special storage strategies.

- 3. After an examination ends, you need to switch the system back to the teaching scenario. Otherwise, the examination scenario may cause inconvenience to the teaching scenario. For example, you need to log off from the customized user name, re-log in to the system, and manually enter the password after each startup, which is tedious.
- 4. In V1.0.9, the persistent data storage of examination images is triggered by the operations of starting a class and ending a class. That is, after the operations of starting a class and ending a class for an examination image are performed on the ClassManager\_Teacher, data is backed up. The persistent data storage policy does not take effect when it is set on Thin Clients.

#### **III. Operation Steps**

1. To satisfy requirement 1, access the Classroom page and click More and select Batch Config in the upper right corner.

Default_Classroom									
Details Policy Edit									
Name : Default_Classroom	RCD Server : <u>Master RCD Server</u>	Teacher PC IP : 172.18.158.204							
Description :									
Cloud Desktop List		Batch Add	Add Delete More ^						
Total records: 5. Current Page: Record 1 to 5		10 🔽 Reco	rds Per Page Go to Page 1 / Kickout						
Cloud Desktop Name Network Mode (	Cloud Desktop MAC Cloud Desktop IP	Thin Client IP Thin Client MAC	Thin Client Name Action Refresh						
Stu-05	2:54:00:11:44:82 172.18.158.199	Resource Not Use	d Batch Config						
			Thin Client Log						
Stu-04	2:54:00:11:44:81 172.18.158.198	Resource Not Use	d Edit Thin Client Hardward						
Stu-03	2:54:00:11:44:80 172.18.158.197	Resource Not Use	d Edit More v						

2. Click Username & Password. In the displayed dialog box, set Username Prefix and Username Start Value.

Cloud Desktop Setting		×
Classroom : [		
Setup Cloud Desktop :		
Username & Password :	🔽 🕖 Clear Username & Password	
Username Prefix :	stu	
* Username Start Value :	1	
Password :	password X	
	OK Cancel	

Note: If the start IP address of the Cloud Desktops is not set, the IP addresses of all Cloud Desktops will be cleared by default.

3. After the Cloud Desktop is started, the OS automatically creates a user name and a password (based on the rules defined for the Cloud Desktop) at the first startup, and automatically logs off. A student needs to manually enter the user name and password to log in to the Thin Client. If the Cloud Desktop uses the Windows XP system, the logoff takes a long period of time (about 10–20s). The logoff is faster (about 1–5s) in the Windows 7 system.

Note: This configuration is valid to all images. It is recommended that the password be set only for the examination scenario. In non-examination scenarios, it is recommended that the password be cleared.

Cloud Desktop Setting	×
Classroom : Default_Classroom	
Setup Cloud Desktop :	
Username & Password : 🗹 🕖 Clear Username & Password	
Username Prefix : stu	
* Username Start Value : 1	
Password : password	
OK Cancel	

- 4. To satisfy requirement 2, you can modify the image settings to enable the system to back up each Cloud Desktop. Access the **Image** page, select the course to be modified and click **Edit**.
- 5. In the displayed dialog box, select **Desktop Backup** and **Backup after class**, and click **Edit** to save the settings.

Edit Image Template	×
*Image Name: winxp初中模板_1	,
Image File Name : winxp初中模板_1.base	
* OS : Windows XP ~	
Enable : 🛑 😗 Disabled image is not displayed	on Thin Clients.
* Desktop Backup 🔽 Recommended for Exams	
<ul> <li>* Policy : No backup after class</li> <li>Backup after class</li> <li>Real-time backup</li> </ul>	
* System Config : 🧿 Standard(Recommended) 🔘 High	Custom

To check the backup data, do as follows:

- 1

After the operation of ending a class is performed, the system automatically saves the Cloud Desktops and generates backup information. As shown in the figure below, click an image and click the link in the lower left corner to access the backup list



6. Click **Detailed** to display backup details about all cloud desktops.

$\bigcirc$						🔅 Config	Wizard	? Help	i About	8 admin	logout
Image Backup Listwinxp标准模板 Delete										te	
т	otal r	ecords: 1.0	Current Page: Record 1 to 1				10 🗸	Records Per Pa	ge Go to Page 1	/1 Go  ∢	< > >
					Dependent Term ID	Classroom	Create Time	Update Tir	ne Descriptio	n Action	
		1	winxp标准模板 2016-10-18-14- 18_50	winxp标准模 板		Default_Classroom	2016-10-18 14:18	2016-10-1 14:20	8	Detailed Ed Disable	<u>it</u>

7. Click **Enable** to run a specified cloud desktop backup.

	_
Desktop Backup Listwinxp标准模板 2016-10-18-14-18_50	
Total records: 4. Current Page: Record 1 to 4	
Name File Name Vpdate Time RCD Server IP Base Create Time Update Time Action	
□ stu003 winxp标准模板_S217_stu003_1.inst 192.168.122.1 winxp标准模板 2016-10-18 14:20 Enable	
□ stu004 winxp标准模板_S217_stu004_1.inst 192.168.122.1 winxp标准模板 2016-10-18 14:20 Enable	
□ Stu-01 winxp标准模板_S217_Stu-01_1.inst 192.168.122.1 winxp标准模板 2016-10-18 14:20 Enable	
□ Stu-02 winxp标准模板_S217_Stu-02_1.inst 192.168.122.1 winxp标准模板 2016-10-18 14:20 Enable	

Note: After the examination images are backed up, the examination images cannot be edited.

# 7 Appendix

## 7.1 Interpretation of Product Version Numbers

RCC product versions cover the hardware versions, software versions, and system versions. The version naming conventions are as follows:

1. Hardware versions:

Naming convention: Product name\_Vx.yz. For example, the hardware versions of Thin Client include Rain100\_1.0 and Rain200\_1.1.

### Rule description:

x: an integer ranging from 1 to 99. The initial value is 1. When major changes such as hardware change and upgrade are involved, the value of x is increased by 1. The change of this version number always comes with software version upgrade.

y: an integer ranging from 0 to 9. The initial value is 0. When major auxiliary component changes such as the change of the power supply or PCB design are involved, the value of y is increased by 1. Generally, the change of this version number does not trigger the software version upgrade. (Additional instructions will be provided for special circumstances. For example, if the hardware specifications of the main body of the Rain100\_1.0 or Rain100\_1.1 are changed, the corresponding software version is also changed. If the hardware specifications of the main body of the Rain100\_1.0 or Rain100\_1.0 or Rain100\_1.1 keep unchanged, the corresponding software version remains unchanged.)

z: an integer ranging from 0 to 9. The initial value is 0. If non-functional hardware is changed, for example, the hardware PCB process is improved, the value of y is increased by 1. Generally, the change of this version number does not trigger the software version upgrade.

### 2. Software versions:

Naming conventions: Product name\_Vx.y\_Rx[PyTz].n [\_Language ID\_Customized product ID]. For example, the software versions of the RCD Server include RCC\_1.0.9\_R0.10 and RCC\_1.0.9\_R1.24.

### Rule description:

1) x.y: software version number.

x indicates generation x and is an integer ranging from 1 to 99. When functions are significantly changed or the architecture is changed, the value of x is increased by 1.

y indicates the function version. When functions are added or changed, the value of y is increased by 1.

For example, in version 1.0.9, x is 1 and y is 0.9. The later versions are 1.1, 1.2, and increase in sequence.

2) Rx[PyTz].n: version feature code.

Rx indicates the trial or formal version, and the options include R0 and R1.

PyTz indicates the patch or temporary version. P indicates a patch version, and T indicates a temporary version. y and z are integers ranging from 1 to 99. When the version is changed, the value of y or z is increased by 1.

n indicates the internal compilation ID of the version. It starts from 1 and increase by 1.

Note: For Thin Clients, the name of a complete installation package contains the hardware and software version information. Taking RG-Rain100V1.10\_V1.1\_R1.14\_L.iso as an example, 1.1 indicates the hardware version, and V1.1\_R1.14 indicates the software version.

### 3. System versions:

Naming conventions: Product OS name\_Software version\_Feature code. For example, the software versions of the RCD Server include RG-Rain100V1.10\_V1.1\_R1.14\_L and RCDOS\_V1.0.9\_R1.24.

#### Rule description:

- 1) The product OS name is mainly determined based on the system trademarks (Linux, Windows XP, and Android systems are all supported since RCC1.1).
- 2) The software version naming rules are the same as the general software version naming rules.
- 3) The feature code is mainly used to distinguish features of the OS and is generally applicable to Thin Clients. Taking the Thin Client RAIN OS as an example, L indicates Linux, A indicates Android, and X indicates Windows XP.

Note: For Thin Clients such as RG-Rain100V1.10\_V1.1\_R1.14\_X, 1.10 indicates the hardware version, V1.1\_R1.14 indicates the software version, and X/L/A indicates the platform or system type. For RCD Servers such as RG-RCDOS\_Server\_V1.1\_R1.14, feature recognition is not required.

## 7.2 ClassManager Software License

The RCC supports the ClassManager Rainbow software (CM2 for short) since RCC\_1.1\_R1. The CM2 license authorization mode is changed from the dongle mode in ClassManager1.x to file license mode. You need to apply for the license file from Ruijie Product Authorization System and import the license file to the RCD Server.

Ruijie Product Authorization (RG-PA) system

The RG-PA provides a variety of functions such as file license authorization, production, application, hardware change, expansion, and service query.

PA login address: https://www.ruijienetworks.com/support/licensing



Public account used for applying for the ClassManager license is as follows:

User name: classmanager/classmanager1/classmanager2

### Password: ruijie

Terms

### Device identification number (SN)

The SN is a MD5 value calculated based on hardware information of Ruijie products, which refers to the RCD Server here.

You can obtain the SN in the following ways:

Method 1: Log in to the web management UI of the RCD Server. Choose System > License. Click Display SN. (Recommended)

Ruijie Cloud Class				Config Wizard	(?) Help	i About
🔿 Home Page	License				Display SN	Export SN
	Name			Cloud Desktop Count	info	
( Image	RCC-CM-NUM-7000004229142963.lic	Valid	63053Minute(s)	70	<u>Details</u>	
Classroom	RCC-CCR-NUM-	Valid	120600Minuto(a)	70	Detaile	
( RCD Server	05A0000093207987.lic	valio	129000000000000000000000000000000000000	70	Details	
<u> </u>	RCC-CM-NUM-6000000211333598.lic	Valid	SN	×	<u>Details</u>	
💬 Message			G1KD53N000063	_		
System A			ОК	_		
<ul> <li>Network Setting</li> </ul>						
<ul> <li>System Setting</li> </ul>						
• License						

You can also directly export the hardware SN (to avoid incorrect input during license application).

Ruijie Cloud Class				🔅 Config Wizard	? Help	i About	8
	License				Display SN	Export SN	Impor
	Name				Info		
	RCC-CM-NUM-70000042291429	53.lic Valid	63053Minute(s)	70	Details		
	RCC-CCR-NUM-	Valid	120600Minuto(c)	70	Dotalla		
	05A0000093207987.lic	Export SN	1296000000000000000000000000000000000000	×	Details		
	RCC-CM-NUM-60000002113335	<ul> <li>The exported application.</li> </ul>	d SN can be used for temp	orary/official license	<u>Details</u>		
			Export SN				
• License							

Method 2: Check the SN on upper cover of the RCD Server.



### Product authorization code

The ClassManager Rainbow is delivered with a certificate of authorization that provides a unique product authorization code.

The following figure shows an example of the certificate of authorization. You can obtain the authorization code from **Authorization Code Info**.

Company of the second		Rujje	-
北京	星网锐捷网络拉	支术有限公司	
	软件使用授	权书	
尊敬的用户 非常感 限公司销售 本授权书表 证。请妥考 将作为主要	: 谢您购买和使用由北3 的正版软件产品。贵 没权的软件功能,同时 峰保管产品的包装盒、 现文件,证明您含法的]	京星网锐捷网络技术有 公司/单位被授权使用 打享有产品售后服务保 内附授权书。本授权 正版软件功能使用权。	
您所购 一台设备使	买的软件授权产品,一 用。	一份授权产品仅限定给	
产品信息/P RG	Product Info		
产品说明/P	roduct Info		
授权码信息 V-10	/Authorization Code -00000000069 84	Info 後网络舟	
	北京山田	税捷的政大东风公司	
2=		* *	ne

Note: For details about common authorization questions, see "FAQ: Usage – Common Questions About the ClassManager Rainbow license."

### 7.2.1 Generating the License File Using an Authorization Code

### I. Scheme for generating the license file using an authorization code

### Application scenario:

You can apply for a license file by using the authorization code on the certificate of authorization after you purchase the ClassManager Rainbow.

### **Prerequisites:**

- 1. You have upgraded the RCD Server to RCC\_3.1\_R1.11 or a later version.
- 2. The ClassMananger 3.0 has been installed on the teacher PC.
- 3. The ClassMananger Rainbow certificate of authorization has been obtained.

PA login address: <u>http://pa.ruijie.com.cn</u>

Public account used for applying for the ClassManager license is as follows:

User name: classmanager/classmanager1/classmanager2

Password: ruijie

### The operation steps are as follows:

- 1. Obtain the device SN.
- 2. Obtain the authorization code from the certificate of authorization.
- 3. Log in to the RG-PA system by using the public account.

Rujje	RG-PA I	Ruijie Pro	xduct Auth	norization System	n	Welcome: classmanager	Change Password	Support	Mail:service_rj@ruijien	etworks.com	울 Online Serv	ice 🖋 About 🛛 🧿 Log	gout
	Â	Tempora	ry License	Unbind License									
Location: Homepage								;	加密狗序列号/设备SN/	授权码(精确):			Search
Apply	加密狗升级国	申请											
Authorization Code	Li	cense	Quantity	Customer	硬件编码	加密狗序列号/Valida	ition Code		Applicator	Applied	Status	Download License	

4. Click **Apply**. Enter the customer name, SN code, authorization code, and other customer information.

Te	emporary License Unbind License	
Location: Homepage > Bind License		
• Add		
* Customer: 请先输入客户名称(唯	<u>(</u> )	
Email :		
Contact Number :		
* Industry :		
* Province :	r	
* City :		
* Work Place :	Please enter	your work place and its address. In the case of license missing, we will verify this information to help yo
是否手动输入SN: 📃		
* Upload DAT : 🛖 Add		
Authorization Code1:	Add	Ш СН 📼 🕑 🗧
		Complete

Note: RCC2.0 and earlier versions do not support hardware information export. You can manually input the hardware SN.

是否手动输入SN: 🗹	
* 设备SN:	RCD服务器的SN 如何找到SN(RCD2.0之前的版本)
Product Type :	
Product Series :	
Product Name :	
Authorization Code1:	Add
	Complete Cancel

5. After the license is generated, download the .lic file.

Note: If you forget to download the license file or lost the license file, you can download it from the home page of the RG-PA system.

Rujje	RG-PA I	Ruijie Product A	uthorization System	m	Welcome: classmanager1 (	Change Password S	upport Mail:service_rj@ruijier	etworks.com	울 Online Ser	vice 🥒 About 💿 Log	jout
	Â	Temporary Licens	e Unbind License								
Location: Homepage							加密狗序列号/设备SN	'授权码(精确):		]	Searc
Apply	加密狗升级申	请									
Authorization Code	Lic	ense Quantit	y Customer	硬件编码	加密狗序列号/Validatio	on Code	Applicator	Applied	Status	Download License	

6. Log in to the RCD Server, and click **Import License** to import the .lic file.

Ruijie Cloud Class	$\langle \cdot \rangle$			Config Wizard	(?) Help (j) About
	License				Display SN Export SN
	Name				Info
	RCC-CM-NUM-7000004229142963.lid	valid	63473Minute(s)	70	Details
		Import License		×	
	RCC-CCR-NUM- 05A00000093207987.lic	Make auro			Details
	RCC-CM-NUM-6000000211333598.	<ul> <li>Incorrect til</li> </ul>	me may affect the licer	ise validity period.	Details
		Import License			
			Cancel		

Ensure that the license file is successfully imported.

### 7.2.2 Granting Temporary Authorization

### I. Temporary authorization

### **Application scenario:**

Temporary authorization is applicable to customers who do not purchase the ClassManager (there is no formal authorization code). Temporary authorization is commonly used for pre-sales testing or demo projects.

Note: This operation requires the after-sales personnel to submit an application and obtain the approval from product managers.

### 7.2.3 Unbinding the Authorization

## I. Unbinding the

authorization

### Application scenario:

In certain situations (for example, replacing a faulty RCD Server), you need to unbind the authorization code from the faulty RCD Server and bind it with another RCD Server.

Note: This operation requires the after-sales personnel to submit an application and obtain the approval from product managers.

### 7.2.4 Granting Authorization in Cluster or Stack Scenario

Authorization for RCD Servers in stack or cluster mode:

In stack mode, you can bind each RCD Server with one authorization code and then import the authorization codes to the master RCD Server.



In cluster mode, you can bind the master RCD Server with each authorization code and then import the authorization codes to the master RCD Server.



Note: For details about common authorization questions, see "FAQ: Usage – Common Questions About the ClassManager Rainbow license.

## 7.3 RCD Server Commissioning

The following figure shows the startup screen of the RCD Server of RCC\_1.1 and later versions (the command mode is available only under the SSH connection).



The upper part displays the server version information, and the lower part displays the technical support forum and service hotline. The bottom prompt bar displays the functional shortcut keys. F2 is used to display the system configuration and logs. **Ctrl+F** is used to display the factory test program. F12 is used to shut down or restart the system. For details about the login page and function description, see relevant manuals.

Note: It is highly risky to log in to the RCD Server from the CLI. Customers are not recommended to log in from the CLI independently, but under the guidance of customer service engineers or service hotline (4008).

In special scenarios, for example, when the IP address of the RCD Server is forgotten, you can view the IP address of the RCD Server in CLI mode.

I. Logging in to the RCD Server in Telnet mode (applicable to V1.0.8 and earlier versions)

You can log in to the RCD 6000 in Telnet mode. The default user name and password are admin.



The default IP address is 192.168.1.100/101. If you forget the IP address, you can access the RCD Server via the serial

port or display/mouse and keyboard run ifconfig-list to check the IP address.



II. Serial port login mode (applicable to all versions)

Log in to RCD Server by connecting to the serial port on the rear panel and setting the baud rate to 115200. Then, check the corresponding command. (The default user name and passwords are **admin**. For details about the commands, see relevant documents.)

؇ serial-com1-115200 🛛 🗙

```
RCC RCD Server OS release 1.0.9_R1.10
 Kernel 3.10.23 on an x86_64
 RCD login: admin
 Password:
Last login: Tue Sep 9 16:49:03 on tty50
 |-----COMMAND------
                                                                                                     _____
 <cvm_version <2>:cvm_monitor <3>:ifconfig_list <4>:list_all
<5>:get_sn <6>:get_status <7>:list_base <8>:list_iso
<9>:list_temp <10>:list_vms <11>:web_service_status<12>:list_instance
<13>:list_instance_name <14>:run_instance_fast <15>:release_instance
 <16>:edit_image <17>:edit_temp <18:ifconfig <19
<20>:open_port <21>:close_port <22>:change_ftpuser_pwd
<23>:reset_ftpuser_pwd <24>:clone_image <25>:create_base <20
</pre>
                                                                                                                  <19>:dnsconfia
                                                                                                                  <26>:del_base
<25>:reset_rtpuser_pwd <24>:clone_image <25>:create_base <26>:del_base
<27>:del_iso <28>:get_check <29>:list_resource<30>:preload_image
<31>:rebase_image <32>:rename_image <33>:list-preload <34>:del_preload
<35>:del_image <36>:del_temp <37>:list_image <38>:replace_iso
<39>:web_service <40>:shutdown_instance <41>:exec_shell_cmd
<42>:expand_image <43>:copy_temp <44>:list_backup_temp
<45>:list_backup_temp_dir <46>:del_backup_temp <47>:del_backup_temp_dir
                                                                            <<50>:quit <0>:factory test
 <48>:poweroff
                                        <49>:reboot
                     ____
                                                   _____
                                                                            ____
                                                                                          ____
 please choose the command (input a number between 0-48):
 ifconfig_list result:
<?xml version="1.0" encoding="UTF-8"?>
 <return>
    <command>ifconfig_list</command>
    <dns>8.8.8.8</dns>
    <gateway>192.168.34.1</gateway>
    <ip>192.168.34.100</ip>
<ip>192.168.34.101</ip>
    <netmask>255.255.255.0</netmask>
 </return>
III. Log mode using an
external VGA
                               display
                         Uls
(visualized
                                      are
```

provided since RCC\_1.1)

You can log in to the RCD Server by connecting to the VGA display interface on the rear panel and connecting the keyboard and mouse (used for entering commands). Then, check the corresponding command. The default user name and password are admin.

1		COMMAND	
<1>:cvm_version	<2>:cvm_monitor	<3>:ifconfig_list	<4>:list_all
<5>:get_sn	<6>:get_status	<7>:list_base	<8>:list_iso
<9>:list_temp	<10>:1ist_vms <11	>:web_service_status<	12>:list instance
<13>:list_instance_name	<14>:run_ins	tance_fast <15>;r	elease_instance
<16>:edit image	<17>:edit_temp	<18>:ifconfig	<19>:dnsconfi
<20>:open port	<21>:close port	<22>:change ftpuse	r_pwd
<23>:reset_ftpuser_pwd	<24>:clone_image	<25>:create base	<26>:del_base
<27>:del iso	<28>:get check	<29>:list resource<3	0>:preload image
<31>:rebase image	<32>:rename image	<33>:list-preload	<34>:del preloa
<35>:del image	<36>:del_temp	<37>:list image	<38>:replace is
<39>:web_service	<40>:shutdown ins	tance <41>:ex	ec shell cmd
<42>:expand image	<43>:copy_temp	<44>:1i	st backup temp
<45>:list backup temp (	dir <46>:del bac	kup temp <47>:del b	ackup temp dir
<48>:guit	<0>:factory test		

Note: Due to limited windows of the display, certain information cannot be completely displayed. you can scroll up or down by pressing Shift+Page up or Shift+Page down to view the complete information.

## 7.4 Shortcut Keys for Rain Thin Client Commissioning

I. Back-end commissioning shortcut keys for Rain Thin Clients

Entering the Windows back end: **Shift+S+F8** 

Entering the Linux back end: Ctrl+Alt+T

Entering the Android back end: Alt+Shift+F7

Note: It is greatly risky to log in to the back end and perform operations on the Thin Client. Improper operations may damage the system and result in the Thin Client running failure. Exercise caution when you perform this operation.

### II. Functional Shortcut Keys for Rain Thin Clients

Running the convergent computing program: Shift+R+F8

III. UI Switching Shortcut Keys for Rain Thin Clients

Switching between the server UI and the CLI:

Switching to the login page: Ctrl+Shift+Q

Switching to the TUI: Ctrl+Alt+F1

### **IV. Other Shortcut Keys**

Switching between the window and the full screen of Admin-Tool: Shift+S+F11 Skipping the Thin Client selection during iPXE/PXE upgrade: Shift+F

## 7.5 PXE Upgrade Mode

The PXE an distribute created images to all Thin Clients. Different from the iPXE, the PXE function requires hardware support.

Note: Currently, the PXE function is configured through BIOS for all Rain Thin Clients, including the Rain100 V1.0–1.3 and Rain200 V1.0. For Rain200 V1.1, after the Thin Client is started, you can directly press F11 to enable the PXE function. After the Thin Client is restarted, the PXE function is automatically disabled and no extra configuration is required.

Image files of the Thin Client need to be uploaded using the Web-based upload system.

Ruijie Cloud Class		Onfig Wizard	? Help i About
A Home Page	Rain100/200 Series Rain100S/200S/200C Series		
🖲 Image	Firmware List	Upload Firmware OS Source	Refresh Upgrade Wizard Push Mode
Classroom	RG-RainOS_V2.1_R1.13_L_Factory.iso	Install via ISO	Fast, Complet
😰 RCD Server			
Message			
😫 System	· ·		
🛞 Maintenance	×		
🕥 Upgrade	^		
RCD Server Upgrade     Thin Client Upgrade			

The upgrade operation steps are as follows:

- 1. Ensure that DHCP is configured and the IP segment has sufficient IP addresses. If the system remains at the DHCP page during startup, you can clear the lease and expand the DHCP address segment. Then, perform the operation again.
- Click Upgrade Wizard and press Shift+F to skip the Thin Client selection. Select an image to be distributed, and click Next. Wait Thin Clients to connect to the RCD Server.

Ruije Cloud Class	$\langle \cdot \rangle$		Onfig Wizard	? Help	(i) About	A admin logout
🗑 Home Page	- Select	2 Configure 3 CH	neck	4 Upgra	ade	
🕲 Image	Select Thin Clients	Select a firmware		Upgrade 1	Thin Client	ext Finish
Classroom	1 Tins: Select at least one Thin Cl	ient If no Thin Client is available, check wheth	er Thin Clients are online		_	
RCD Server		and a no min cicil is available, creak mea				
💬 Message	ID Name Software	Version	System Type		IP	MAC
😫 System 🗸						
🛞 Maintenance 🗸						
🕥 Upgrade 🖍						
●RCD Server Upgrade						
Thin Client Upgrade						

3. Enable the PXE function and set it to the **Onboard** mode.

### Motherboard setting mode of Rain100 V1.0:



Motherboard BIOS setting mode of Rain100 V1.1 and later versions:



Motherboard BIOS setting mode of Rain200 V1.0:



4. Press F10 or F4. Select Yes to save the settings and exit. Select Launch PXE OpROM on the Boot page and select Enable to restart the Thin Client. The waiting page in a blue background is displayed.

After the Thin Client is restarted, it automatically enters a page as shown in the following figure, waiting for the distribution of images.

Partclone Starting t	v0.2.66 http://) o restore image	Partclone partclone.org (-) to device	(/dev/sda1)

- 5. After IP addresses of all Thin Clients are displayed, indicating that all Thin Clients are waiting for the image distribution, start the distribution.
- 6. The Thin Clients start copying the images. After the images are copied, the system automatically disables the related services.

## 7.6 Fast Upgrade Mode

The premise for fast upgrade mode is that Thin Clients and RCD Servers are later than V2.0 r1p 2.25, and the target versions must be later than V2.0 r1p 2.25.

The fast upgrade mode does not rely on the DHCP function of the RCD Server. Thin Clients are allowed to use static addresses. The fast upgrade can be implemented as long as the Thin Client and the RCD Server can successfully interwork with each other.

1. Upload the Thin Client system version (only the ISO file suffixed with \_X or \_L supports the Rain100 and Rain200) through the Web system.

Ruijie Cloud Class	$\bigcirc$	Onfig Wizard	? Help i About
ด Home Page	Rain100/200 Series Rain100S/200S/200C Series		
🐚 Image	Firmware List System	Upload Firmware OS Source	Refresh Upgrade Wizard Push Mode
Classroom	RG-RainOS_V2.1_R1.13_L_Factory.iso	Install via ISO	Fast, Complet
E RCD Server			
Message			
😧 System 🗸			
🛞 Maintenance 🗸			
🕥 Upgrade 🖍			
<ul> <li>RCD Server Upgrade</li> </ul>			
• Thin Client Upgrade			

2. Click Upgrade Wizard.

Ruije Cloud Class	$\bigcirc$	Onfig Wizard	? Help () About
lome Page	Rain100/200 Series Rain100S/200S/200C Series		
🕲 Image	Firmware List System	Upload Firmware OS Source	Refresh Upgrade Wizard Push Mode
Classroom	RG-RainOS_V2.1_R1.13_L_Factory.iso	Install via ISO	Fast, Complete
😰 RCD Server			
💬 Message			
😫 System 🗸			
🛞 Maintenance 🗸			
🕥 Upgrade 🖍			
● RCD Server Upgrade			
<ul> <li>Thin Client Upgrade</li> </ul>			

$\langle \rangle$			Onfig Wizard	? Help	(i) About	8 admin	logout
1 Select Select Thin Clients	2 Configure Select a firmware	3 Check	e <b>ck</b> < upgrade config	4 Upgrade	ade Thin Client		
						lext Fin	ish
1 Tips: Select at least one Thin	n Client. If no Thin Client is available,	check whethe	r Thin Clients are online.				
Thin Client List[0]					Thin Clien	lt Skip	
ID Name Softw	are Version		System Type		IP	MAC	

Select the Thin Client to be upgraded.

Thin Client										$\times$
* Cla: * Syste	ssroom : m Type :	Defa All T	ult_Classroom	~						^
Online Thin	Client					Selected Thi	n Client			
Name Tbox-01	IP 192.168.122	2.11	MAC 00:E0:4C:5B:A2:0F	System T linux (32)	<ul> <li>&gt;&gt; Add All</li> <li>&gt;&gt; Add</li> <li></li> <li></li></ul>	Name	IP	MAC	System Type	
Tips: 1. You can 2. Target t 3. Only on	select Thir hin clients line Thin Cl	ı Clien must b ients (	ts based on classro be of the same OS t Thin Clients with "	om. ype(32-bit/6 Select OS″	4-bit). page or a certain (	DS's desktop	o displaye	d) are in 1	the list.	_

Select a target Thin Client version and click  $\ensuremath{\textit{Next}}.$ 

$\bigcirc$	(3	Config Wizard	? Help	(i) About	admin (logo
1 Select Select Thin Clients 2 Configure Select a firmware	3 Check	rade config	4 Upgrade	ade Thin Client	
	_			Back N	ext Finish
<b>1</b> Tips: The following firmwares are available for upgrade.					
System	OS Source	System Type	Up	grade Mode	Action
RG-RainOS_V2.1_R1.13_L_Factory.iso	Install via ISO	32bit	Fas	st, Complete	
Click Next.					

#### 

### Click **Next** to upgrade the Thin Client.

Tips	×
Are you sure to upgrade the system?	
OK Cancel	

Click **Prepare** and **OK**. The Thin Client automatically implements the upgrade flow. Wait until the system is successfully upgraded.

<	)				Config Wizard	? Help	(i) About	8 admin logout
	Select Select Thin	Clients 2	Configure Select a firmware	3 Check	e <b>ck</b> upgrade config	4 Upgrade	ade Thin Client	
								Finish
	🕧 [Push Mo	ode]FastCloud Desktop Co	unt:1; Connected:0; Discon	nnected:1; Upgr	ade Success:0			
т	nin Client-Systen	n: RG-RainOS_V2.1_R1.13_L	Factory.iso					Prepare
ID	Name	Software Version	IP	MAC		Thin Client St	atus	
1	Tbox-01	2.2.3	192.168.122.11	00:E0	4C:5B:A2:0F	Offline		

## 7.7 iPXE Upgrade Mode

1. Configure the DHCP address pool.

Ensure that the DHCP address pool is large enough. Clear the lease. It is recommended that new address segments be used for upgrade.

Ensure that no other DHCP service has been configured in the LAN and the IP address of the RCD Server is not contained in the DHCP address pool.

Ensure that two network ports of the RCD Servers function properly. Ensure that the to-be-upgraded Thin Client can connect to the RCD Server successfully. The preferred startup item of the Thin Client cannot be the PXE function.

 Choose Upgrade > Thin Client Upgrade. Upload the standard Thin Client image to the RCD Server. For the Thin Client ISO file downloaded from the net disk, check the MD5 value before uploading to ensure the image correctness.

Ruijie Cloud Class	$\bigcirc$	Onfig Wizard	(?) Help (i) About
lome Page	Rain100/200 Series Rain100S/200S/200C Series		
(6) Image	Firmware List	Upload Firmware	Refresh Upgrade Wizard
G mage	System	OS Source	Push Mode
Classroom	RG-RainOS_V2.1_R1.13_L_Factory.iso	Install via ISO	Fast, Complet
RCD Server			
💬 Message			
😫 System 🗸			
🛞 Maintenance 🗸			
🕥 Upgrade 🖍			
●RCD Server Upgrade			
<ul> <li>Thin Client Upgrade</li> </ul>			

Thin Client								×
* Classroom :	Defa	ault_Classroom	~					~
* System Type :	All T	уре	~					
Online Thin Client					Selected Th	in Client		
Name IP		MAC	System T		Name	IP	MAC	System T
				<ul> <li>» Add All</li> <li>&gt; Add</li> <li>&lt; Remove</li> <li>int Remove All</li> </ul>	Tbox-01	192.168.122.11	00:E0:4C:5B:A2:0F	linux (32)
<ul> <li>Tips:</li> <li>1. You can select Thir</li> <li>2. Target thin clients</li> </ul>	n Client must b	ts based on classroo be of the same OS ty	m. pe(32-bit/64	4-bit).				
3. Only online Thin C	lients (	Thin Clients with "S	elect OS"	page or a certain (	DS′s deskto	p displayed) are i	n the list.	

3. Click **Config Wizard** and add a Thin Client to **Selected Thin Client**.

4. Click **Next** to configure the Thin Client system. Select an appropriate Thin Client and click **Next** to confirm the configuration.

Ruijie Cloud Class	$\langle \langle$	)				🔅 Config Wizard	? Help	i About	8 admin	logout
lome Page		Select	2	Configure	3 <sup>Ch</sup>	eck	4 Upgra	ade		
🕲 Image		Select Thin	Clients S	elect a firmware	Chec	ck upgrade config	Upgrade <sup>•</sup>	rhin Client	Fin	ish
Classroom		🚺 [Push M	ode]FastCloud Desktop Cou	nt:1; Connected:0; Disconne	ected:1; Upd	grade Success:0				
RCD Server										
Message	Т	hin Client-Syster	n: RG-RainOS_V2.1_R1.13_L	Factory.iso					Prepare	
- Message	ID	Name	Software Version	IP	MAC	-	Thin Client St	atus		
😫 System 🗸	1	Tbox-01	2.2.3	192.168.122.11	00:E	0:4C:5B:A2:0F	Offline			
🛞 Maintenance 🗸 🗸										
🕥 Upgrade 🖍										
<ul> <li>RCD Server Upgrade</li> </ul>										
• Thin Client Upgrade										

5. In the Upgrade Mode Config dialog box, select Complete, Unicast or Complete, Multicast.

	lients	Configure Select a firmware	3 Check Check upgrade config	4 Upgrade Upgrade Thin Client
rade Config U	List Ipgrade Mode Con	fig		Back N
Tips: Che rade Thin C Syste Jpgrade Mor	Upgrade Mode	The upgrade is fast and stable The RCD Server should be en The RCD Server should be en	e without DHCP enabled () Fast ( abled with DHCP.() Complete, Ur abled with DHCP.() Complete, M	Recommended] nicast ulticast
		ОК	Cancel	

6. Click **Next** to start the upgrade.

<	)			Onfig Wizard	? Help	(i) About	Admin logout
:	Select	Clients 2 Cor	nfigure	<b>Check</b> Check upgrade config	4 Upgrade	ade Thin Client	
							Finish
	\rm (Push Mo	de]FastCloud Desktop Count:1	; Connected:0; Disconnect	ed:1; Upgrade Success:0			
т	nin Client-System	: RG-RainOS_V2.1_R1.13_L_Fact	ory.iso				Prepare
ID	Name	Software Version	IP	MAC	Thin Client St	tatus	
1	Tbox-01	2.2.3	192.168.122.11	00:E0:4C:5B:A2:0F	Offline		

7. Wait till the Thin Client is displayed on the upgrade page. If **unicast mode** is selected, the Thin Client automatically performs the upgrade operation. If **multicast mode** is selected, the system displays a button for starting the upgrade. Wait until all Thin Clients are added to the Thin Client upgrade list and then click the start button.

## 7.8 OTA Upgrade Mode

1. Configure the DHCP address pool.

Ensure that the DHCP address pool is large enough. Clear the lease. It is recommended that new address segments be used for upgrade.

Ensure that no other DHCP service has been configured in the LAN and the IP address of the RCD Server is not contained in the DHCP address pool.

Ensure that two network ports of the RCD Servers function properly. Ensure that the to-be-upgraded Thin Client can connect to the RCD Server.

2. Upload the Thin Client system upgrade package.

Choose Upgrade > Thin Client Upgrade from the navigation tree, select Rain100S/200S/200C Series, and click Upload Firmware to upload a proper Thin Client system upgrade package (suffixed with \_A.zip) to the RCD Server.

Ruijie Cloud Class	$\checkmark$				Onfig Wizard	? Help	i About	8 admin	logout
lome Page	Rain100/200 Series	Rain100S/200S/.	200C Series						
۵.	Firmware List Supported	Firmware List				Uploa	d Firmware Re	fresh Help	
( Image	File Name		Hardware Version						
Classroom	Rain200S(C).zip	Rain200S(C)	V1.0	RG	-RainOS-V3.1_R1.11_A		2016-10-01 0	3:09:57	
RCD Server	Rain100SV2.zip	Rain100S	V2.0	RG	-RainOS-V3.1_R1.11_A		2016-10-01 0	3:09:57	
Dessage	Rain100SV1.zip	Rain100S	V1.0	RG	-RainOS-V3.1_R1.11_A		2016-10-01 0	3:09:57	
🕃 System 🗸	If the software version o specific Thin Client, swite When you see the "Selec	f Thin Clients is lower t th to manual upgrade.	than that of the RCD Server, Thir See Help for details. o OS's desktop via a Thin Client	n Clients will display mon	be upgraded automatical	y when connecti	ing to the server. If	f you want to upo	grade a
🛞 Maintenance 🗸 🗸	Thin Client List [Auto U	Jpgrade]		alopiay mor			(	Manual Upgrade	
🕥 Upgrade 🖍									
<ul> <li>RCD Server Upgrade</li> </ul>									
Thin Client Upgrade									

Click the upgrade package to be uploaded and upload it to the RCD Server.

😴 Terminal Image 🛛	Directory - Connected - Ruijiel	FTP				-			×
local site: C:\			•	remote site:	/OTA				•
Filename	Filesize Filetype	Last modified	*	Filename	Filesize	Filetype	Last modified	Permissio	0

After the upload is complete, click **Refresh**. If information similar to the figure below, the upload is successful.

Rain100/200 Series	Rain100S/200S/	Rain100S/200S/200C Series								
Firmware List Supported Firmware List Upload Firmware Cefresh Help										
ile Name	Model	Hardware Version	Target Software Version	Upgrade Time						
ain200S(C).zip	Rain200S(C)	V1.0	RG-RainOS-V3.1_R1.11_A	2016-10-01 03:09:57						
ain100SV2.zip	Rain100S	V2.0	RG-RainOS-V3.1_R1.11_A	2016-10-01 03:09:57						
ain100SV1.zip	Rain100S	V1.0	RG-RainOS-V3.1_R1.11_A	2016-10-01 03:09:57						
If the software version of specific Thin Client, swi When you see the "Sele	of Thin Clients is lower tch to manual upgrade ect OS" page or a certai	than that of the RCD Server, Thir . See Help for details. in OS's desktop via a Thin Client	n Clients will be upgraded automatically when o display monitor, it indicates that the Thin Client	onnecting to the server. If you want to upgrade a						

- 3. Set the automatic or manual upgrade mode.
  - 1) By default, the RCD Server uses automatic upgrade mode, as shown in the figure below.

Ruije Cloud Class	$\checkmark$			🔅 Config Wizard	? Help	i About	8 admin lo
Home Page	Rain100/200 Series	Rain100S/200S/	200C Series				
<b>.</b>	Firmware List supported	d Firmware List			Uploa	d Firmware Re	efresh Help
() Image	File Name	Model	Hardware Version	Target Software Version		Upgrade Tim	ie
() Classroom	Rain200S(C).zip	Rain200S(C)	V1.0	RG-RainOS-V3.1_R1.11_A		2016-10-01 (	03:09:57
RCD Server	Rain100SV2.zip	V2.zip Rain100S V2.0		RG-RainOS-V3.1_R1.11_A	RG-RainOS-V3.1_R1.11_A 2016-10-01 (		03:09:57
Dessage	Rain100SV1.zip	Rain100S	V1.0	RG-RainOS-V3.1_R1.11_A		2016-10-01 (	03:09:57
😧 System 🗸	If the software version specific Thin Client, swi	of Thin Clients is lower itch to manual upgrade	than that of the RCD Server, Thin . See Help for details.	Clients will be upgraded automatical	lly when connect	ing to the server. I	f you want to upgrade
🛞 Maintenance 🗸	Thin Client List [Auto	Upgrade]	n OS s desktop via a Thin Client c	isplay monitor, it indicates that the I	nin client has co	nnected to the RC	Manual Upgrade
🕥 Upgrade 🖍							
RCD Server Upgrade							
<ul> <li>Thin Client Upgrade</li> </ul>							

The system automatically upgrades the Thin Client after the Thin Client is powered on and connected to the RCD Server. Switch the upgrade mode to the manual mode.

File Name	Model	Hardware version	Target Software Version	Upgrade Time			
Rain200S(C).zip	Rain200S(C)	V1.0	RG-RainOS-V3.1_R1.11_A	2016-10-01 03:09:57			
Rain100SV2.zip	Rain100S	V2.0	RG-RainOS-V3.1_R1.11_A	2016-10-01 03:09:57			
Rain100SV1.zip         Rain100S         V1.0         RG-RainOS-V3.1_R1.11_A         2016-10-01.03:09:57							
[Statistics]Total:1. If the software version specific Thin Client, sw When you see the "Sel	Ready:1. Configuring:0 of Thin Clients is lower than t itch to manual upgrade. See lect OS" page or a certain OS"	that of the RCD Server, Thin Cl Help for details. s desktop via a Thin Client disj	ients will be upgraded automatical play monitor, it indicates that the T	ly when connecting to the server. If you want to upgrade a hin Client has connected to the RCD Server.			
Thin Client List [Man	ual Upgrade]			Upgrade Switch Refresh			
ID IP	MAC	Server	Current Software Targ Version	jet Software Version Thin Client Status			
1 192.168.122.12	58:69:6C:3E:39:B2	192.168.122.1	RG-RainOS- V3.1_R1.11_A	Ready			

Wait for all Thin Clients to be upgraded to connect to the RCD Server, and then click **Upgrade**.

System Update		
Remaining Time: 0s 84%		175MB/S
Cancel Download	Pause	

If a Thin Client is not connected to the RCD Server, click **Refresh** for the Thin Client to connect to the RCD Server.

# 8 FAQs

## 8.1 Products

### Q1: How to view the hardware information of the RCD Server?

- 1. Upgrade the RCD Server to V1.1R1.18 or a later version and connect a display and a keyboard to the RCD Server.
- 2. On the login page of the RCD Server, press F2 and enter user name admin and password admin.

in Name: admin		s and par	seword fo	r localhost.	
	React	*	Back	*	
		-			

3. After you successfully log in to the system, switch to the View System Information page using the keyboard.



4. The configuration of the RCD Server is displayed. Select PAGE DOWN to display the hardware information.




# Q2: What are differences between Thin Clients using the Linux system and Thin Clients using the Windows system?

The Rain Thin Clients are installed with the Linux system by default. The Linux system does support a few software. Therefore, the Linux system is not applicable to the convergent computing scenarios.

If the convergent computing function is required, you can load the Windows system to the Thin Client.

It is boring and tedious to re-install the OS for Thin Clients one by one. You can use the simple solution provided by the RCC solution. The steps are as follows:

- 1. Re-install the Windows system on a Thin Client.
- Press Shift+S+F8 to access the Windows XP system and install the required software. For details, see "Convergent Computing" in the Appendix.
- 3. On the management page of the RCD Server, select the Thin Client and create an image.

The firmware creation function is only applicable to the Rain100/Rain200 series. The operation steps are as follows:

1) Select Thin Client Firmware from the navigation tree and click Wizard.

Network Setting				😨 Config Wizard	(2) Help	(i) About	Q admin (logo
<ul> <li>System Setting</li> </ul>				<b>.</b>		<b>U</b>	
<ul> <li>License</li> </ul>	Firmware List					Delete	Wizard
<ul> <li>Workspace</li> </ul>	Firmware		Source	Apply Mode			
●HA Setting							
X Maintenance	^						
<ul> <li>Database Maintenar</li> </ul>	nce						
<ul> <li>Scheduled Task</li> </ul>							
<ul> <li>Redirection Setting</li> </ul>							
<ul> <li>USB Peripheral</li> </ul>							
<ul> <li>Disk Management</li> </ul>							
●Log & Diagnosis							
Thin Client Firmware	e						
<b>1</b> Select Select a firm	ware creation mode	2 Create Create a firmware packag	e				
							Next
Firmware Creation	Mode						
Select	Clone Whole Dis With better o	<b>c</b> ompatibility, the firmware pacl	kage created in this way	supports Fast & Com	plete apply	mode and nee	ds DHCP support.
	O Clone System Pa The firmware	rtition package created in this way s	upports only Fast apply r	mode.[Recommende	d]		
2) Select th	ne firmware cr	eation mode.					

a) Clone System Partition

Set Target Thin Client, which is used as the base disk image.

1 Select a f	ct firmware creation mode	Create Create a firmware package		
Firmware Creat	tion Mode			
Select	Clone Whole Disk With better compatibility, the firmware package created in this way supports Fast & Complete apply mode and nee			
	Clone System Partition The firmware package	ge created in this way supports only Fast apply mode.[Recommended]		
	* Target Thin Client	rain100[172.18.1.148][00:E ~		
	* Firmware Name :			
	1. The system will generate a firmware name based on the selected thin client.			
	2. Name format	: 'RG-'+Model+Hardware Version+'_'+Software Version, e.g., Rain100V1.2_V2.0.0.18_L_test		

The system automatically fills in the firmware name. You can also set the firmware name based on the naming convention described above.

Clone System Partition The firmware package	e created in this way supports only F	ast apply mode.[Recommended]
* Target Thin Client :	rain100[172.18.1.148][00:E ~	
* Firmware Name :		
1. The system wi	This field is required name based o	n the selected thin client.
2. Name format:	This field is required.	Software Version, e.g., Rain100V1.2_V2.0.0.18_L_test

Click **Next**. The Thin Client is restarted and enters the firmware creation page. Wait until the creation is successful. You can view the firmware in the **Firmware** List.

Firmware List			Delete	Wizard
Firmware	Source	Apply Mode		

b) Clone Whole Disk

This creation mode depends on the DHCP service of the RCD Server. Therefore, you need to configure the DHCP first.

The system starts to clone the whole disk.

System A	DHCP [Enabled] Restart Disable Clear Lease			
Network Setting	Cloud Desktop DHCP	Set	Thin Client DHCP	Delete Set
Custom Cotting			Subnet: 192.168.122.0	
• system setting			Start IP: 192.168.122.11	
<ul> <li>License</li> </ul>			End IP: 192.168.122.254	
Workspace	No Config		Subnet Mask : 255.255.255.0	
- Workspace			Gateway : 192.168.122.1	
<ul> <li>HA Setting</li> </ul>			DNS: 114.114.114.114	
			Lease Time (Seconds) : 28800	
Network Setting	$\langle \rangle$			🔅 Config Wizard
<ul> <li>System Setting</li> </ul>				
● License	<b>1</b> Select Select a firmware creation mode	2	<b>Create</b> Create a firmware package	
<ul> <li>Workspace</li> </ul>		_		
	Tips: Please PXE-boot the target thi	n client in	BIOS settings and configure f	firmware creation.
<ul> <li>HA Setting</li> </ul>	State : Creating			
	Complete : Clone Whole Disk			
🛞 Maintenance	^			
Database Mainte	anance.		En	d
- Dutabase Mainte				
Scheduled Task				
Redirection Setti	ng			
<ul> <li>USB Peripheral</li> </ul>				
<ul> <li>Disk Managemer</li> </ul>	nt			
Log & Diagnosis				
• Thin Client Firmv	vare			

Set the Thin Client to start in PXE mode. Restart the Thin Client. A page in red background is displayed.



- 2) The Thin Client uses the default configuration. Enter **y**. Enter the name of the image to be saved as prompted.
- 3) The image clone starts. After the clone is completed, a prompt indicating whether to shut down or restart the system is displayed. Select the restart option and access the BIOS. Disable the PXE startup item.
- 4. Upgrade the Thin Clients in batches in iPXE mode by using the created image.
- 5. Re-configure the Thin Client. The Thin Client has switched to the Windows system at this time.

#### Q3: What software and hardware does the RCC support?

RCD V3.0 supports the following hardware:

- RCD Server V1.0 and RCD Server V2.0
- All Rain Thin Client versions

The following models of the ClassMananger Rainbow support remote wakeup after power failure:

- Rain100 V1.21 and Rain100 V2
- Rain200 V1.1 and later versions

## 8.2 Deployment

# Q1: How to correctly plan the IP addresses for a classroom using the cloud class to avoid address conflict?

You can use the easy deployment function to correctly plan IP address ranges of the Cloud Desktops and Thin Clients, to avoid Thin Client login failure due to address conflict. The configuration method is as follows:

- Before configuration, plan the IP address segment. Ensure that IP addresses in this segment are not used. For example, set the address segment of 60 Thin Clients to 192.168.1.11–192.168.1.70, the address segment of Cloud Clients is 192.168.1.101–192.168.1.160, and the addresses of RCD Servers are 192.168.1.200/201.
- 2. On the web management UI of the RCD Server, click Cloud Desktop, click Batch Config, and set the start IP address of Cloud Clients to 192.168.1.101.
- 3. For a newly deployed classroom or a classroom with Thin Clients upgraded to V1.1, enable the DHCP service, and configure correct DHCP address pool (addresses in the DHCP address pool must be in the same network segment as the addresses of the RCD Servers), to ensure that all Thin Clients in this classroom can obtain IP addresses upon startup.
- 4. Install the CM2\_Teacher of the latest version on the teacher PC, configure the correct RCD Server IP address, and connect the teacher PC to the RCD Servers (after the CM2\_Teacher is successfully installed, you need to restart the teacher PC).
- 5. Select Batch Config. Click Scan to scan all Thin Clients in the classroom. If the number of scanned Thin Clients is inconsistent with the actual number, click Renumber. A unified numbering window is displayed on a scanned Thin Client. Then, you can find out the Thin Clients that do not obtain IP addresses or are not properly connected with network cables. Rectify the faults. After all Thin Clients are scanned, click Renumber and press Enter. Number the Thin Clients in the classroom in sequence.
- 6. After renumbering is completed, click Batch Config and configure the Thin Client name (optional. It cannot be the same as the Cloud Desktop name. Otherwise, a name conflict occurs), resolution (optional), RCD Server address (set to the IP address of the RCD Server deployed in the classroom), and Thin Client address (you are strongly recommended to manually configure a static IP address and set the start IP address, subnet mask, gateway address, and DNS address). You can click the eye icon to view the configured addresses.

Thin client S	Settinas			×
$\bigcirc$	Batch Config	×		
2 So Number S 1	✓ Name Rule       Number :     1-2       Rule :     box	<ul> <li>Network Address</li> <li>Obtain an IP address automatically</li> <li>Use the following IP address</li> </ul>	Batch nt IP 122.11	Action Edit
✓ 2	Resolution ?	Start IP : 172.18.158.111	122.12	Edit
	Resolution : 1600 * 900 • Refresh Rate : 60HZ • I RCD Server IP RCD Server IP : 172.18.158.201 Power Supply ? Auto Power On : Start • Auto Power On : Start •	Obtain a DNS server address automatically         Image: Obtain a DNS server address automatically         Image: Obtain a DNS server address         Preferred DNS Server :         Image: I		

- 7. After the configuration is confirmed, click Apply.
- 8. After the addresses of all Thin Clients are configured, adjust the range of the DHCP address pool to the address range that is not occupied by the Cloud Desktops and Thin Clients, or directly disable the DHCP service.

# Q2: What are differences between the local deployment mode and cluster deployment mode?

The local deployment refers to the Cloud Class deployment scheme for a single classroom. The Cloud Class can use one RCD Server or multiple RCD Servers deployed in stack mode. All Cloud Desktop services are only used in the current classroom.

The cluster deployment refers to the Cloud Class deployment scheme for multiple classrooms. The cluster deployment supports load balancing of Cloud Desktops as well as failover of computing nodes.

### Q3: Why doesn't a license take effect after it is imported?

- 1. Ensure that the RCD Server is upgraded to the latest version.
- 2. The license is valid but the license is not successfully uploaded to the RCD Server due to browser issues.

Solution: For the Internet Explorer, it is recommended to enable the compatible mode and then import the license file. Alternatively, you can import the license file using Google Chrome.

# Q4: How to configure IP addresses for the ClassManager\_Students if the IP addresses of two classrooms are in the same network segment?

To save IP address resources, a college may allocate IP addresses in the same network segment to two classrooms. When deploying CM3.0, you need to configure a static IP address for the CM3.0\_Teacher for Thin clients and Cloud Desktops.

- 1. If the IP addresses of two classrooms are in the same network segment, ensure that the Thin Client addresses, Cloud Desktop addresses, and RCD Server names do not conflict.
- 2. During the deployment, disconnect the switches of two classrooms.
  - a. Configure the ClassManager\_Students in each classroom by using the CM3.0\_Teacher. You need to manually specify the IP addresses of teacher PCs in the classrooms.
  - b. Edit the images and manually specify the ClassManager\_Teacher IP address for CM3.0\_Student in the image. Save the settings.
- 3. After the configuration is completed, interconnect the two classrooms and test the interconnection.

# Q5: How to configure convergent computing in batches for Rain100 or Rain200 Thin Clients?

If the convergent computing function is required, you can upgrade the Windows system.

It is boring and tedious to re-install the OS for Thin Clients one by one. You can use the simple solution provided by the RCC solution. The steps are as follows:

- 1. Re-install the Windows system on a Thin Client.
- Press Shift+S+F8 to access the Windows XP system and install the required software. For details, see "Convergent Computing" in the Appendix.
- 3. On the management page of the RCD Server, select the Thin Client and create an image.

The firmware creation function is only applicable to the Rain100/Rain200 series. The operation steps are as follows:

1) Click **Thin Client Firmware** from the navigation tree and click **Wizard**.

<ul> <li>Network Setting</li> </ul>	$\langle \rangle$			🔅 Config Wizar	d 🥐 Help	i About	admin logout
<ul> <li>System Setting</li> </ul>							
● License	Firmware List		Source	Apply M	ode	Delete	Wizard
<ul> <li>Workspace</li> </ul>	-						
•HA Setting							
Maintenance 🔺							
• Database Maintenance							
<ul> <li>Scheduled Task</li> </ul>							
<ul> <li>Redirection Setting</li> </ul>							
<ul> <li>USB Peripheral</li> </ul>							
<ul> <li>Disk Management</li> </ul>							
●Log & Diagnosis							
• Thin Client Firmware							
<ul> <li>Network Setting</li> </ul>					😨 Config Wizard	(?) Help	(i) About
<ul> <li>System Setting</li> </ul>					•		
● License	- Select	:	<b>2</b> Create				
<ul> <li>Workspace</li> </ul>	Select a fir	mware creation mode	Create a firmware pack				
•HA Setting							
	Firmware Creation	on Mode					
🛞 Maintenance	^ Select	Clone Whole Disk	k	ackage created in	this way supports	Fact & Complet	te apply mode ar
<ul> <li>Database Maintenar</li> </ul>	ice		utition	ackage created in	tina way supporta	Tast & comple	
<ul> <li>Scheduled Task</li> </ul>		The firmware	package created in this way	y supports only Fa	ast apply mode.[R	ecommended]	
Redirection Setting							
●USB Peripheral							
<ul> <li>Disk Management</li> </ul>							
●Log & Diagnosis							
• Thin Client Firmward							

- 2) Select the firmware creation mode.
  - a) Clone System Partition

Set Target Thin Client, which is used as base disk image.

<b>1</b> Select a Select a	ct firmware creation mode	Create Create a firmware package			
Firmware Creat	tion Mode				
Select	<ul> <li>Clone Whole Disk</li> <li>With better compatibility, the firmware package created in this way supports Fast &amp; Complete apply mode and need</li> </ul>				
	Clone System Partition     The firmware package created in this way supports only Fast apply mode.[Recommended]				
	* Target Thin Clien	rain100[172.18.1.148][00:E >			
	* Firmware Name				
	1. The system 2. Name forma	will generate a firmware name based on the selected thin client. it: 'RG-'+Model+Hardware Version+'_'+Software Version, e.g., Rain100V1.2_V2.0.0.18_L_test			

The system automatically fills in the firmware name. You can also set the firmware name based on the naming convention described above.

Clone System Partition The firmware package	created in this way supports only F	ast apply mode.[Recommended]
* Target Thin Client :	rain100[172.18.1.148][00:E >	
* Firmware Name :		
1. The system wi 2. Name format:	This field is required. name based of the second se	n the selected thin client. +Software Version, e.g., Rain100V1.2_V2.0.0.18_L_test

Click Next. The Thin Client is restarted and enters the firmware creation page. Wait until the creation is successful. You can view the firmware in the Firmware List.

Firmware List		Delete	Wizard
Firmware	Apply Mode		

#### b) Clone Whole Disk

This creation mode depends on the DHCP service of the RCD Server. Therefore, you need to configure the DHCP first.

The system starts to clone the whole disk.

System 🔺	DHCP [Enabled] Restart Disable Clear Lease			
Network Setting	Cloud Desktop DHCP	Set	Thin Client DHCP	Delete Set
			Subnet: 192.168.122.0	
<ul> <li>System Setting</li> </ul>			Start IP: 192.168.122.11	
<ul> <li>License</li> </ul>			End IP: 192.168.122.254	
	No Config		Subnet Mask : 255.255.255.0	
<ul> <li>Workspace</li> </ul>			Gateway : 192.168.122.1	
HA Setting			DNS:114.114.114	
			Lease Time (Seconds) : 28800	



Set the Thin Client to start in PXE mode. Restart the Thin Client. A page in red background is displayed.

Advanced	
PXE Features Support	
Onboard LAN PXE Function Support	[Enabled] [Onboard]

- 3) The Thin Client uses the default configuration. Enter **y**. Enter the name of the image to be saved as prompted.
- 4) The image clone starts. After the clone is completed, a prompt indicating whether to shut down or restart the system is displayed. Select the restart option and access the BIOS. Disable the PXE startup item.
- 4. Upgrade the Thin Clients in batches in iPXE mode by using the created image.
- 5. Re-configure the Thin Client. The Thin Client has switched to the Windows system at this time.

## 8.3 Upgrade

### Q1: What is the RCC V3.0 upgrade route map?

#### RCD Server upgrade:

Currently, the latest version of RCC V3.0 is RG-RCC\_V3.0\_R1.14. To upgrade an RCD Server from V1.0.9.36 or V1.1 to V3.0, load the patch package in Web mode, and then load the system package. An RCD Server of V2.0 or a later version can be directly upgraded to V3.0 in Web mode.

If the version of an RCD Server is V1.0.8.8, you are suggested to adopt the ISO upgrade mode using the USB flash drive (directly upgrade the current version to V2.0\_R1.18 and then load the V2.0\_R1P1.19 patch package or a later patch package).

Note: After the RCD Server is upgraded to V3.0, you are recommended to perform deployment or configuration by using Google Chrome.

#### Thin Client upgrade:

The installation package for Android-based Thin Clients is already integrated into the installation package of RCD Server V3.0.

Rain100V2: Thin Client V1.1 and later versions adopt the installation package of Thin Client V3.0 for the upgrade.

Rain100(V1.0) inherits the system of Thin Client V2.0.

Rain200(V1.0) inherits the system of Thin Client V2.0.

Rain100(V1.1) and later versions inherit the system of Thin Client V2.1.

Rain200(V1.01) and later versions inherit the system of Thin Client V2.1.

### Q2: How to upgrade the Thin Clients in iPXE mode without modifying the BIOS?

In V2.0\_R1P1.19, you do not need to flash the BIOS of each Thin Client. You can rapidly upgrade the Thin Clients on the Web management UI.

- 1. After you successfully upgrade the RCD Server to V2.0\_R1P1.19, power on all Thin Clients in the classroom. The RCD Server automatically upgrades the RCC Thin Clients to V2.0\_R1P1.19. Ensure that all Thin Clients are successfully upgraded and display the image selection screen.
- Upload images. On the Web management UI, choose Thin Client > Image > Upload. For classrooms that do not need to install software in the underlying system or use the convergent computing software, it is recommended that the underlying be upgraded to the Linux system.
- 3. Enable the DHCP address pool on the RCD Server, configure a sufficient address space (ensure that the address quantity is more than twice the number of Thin Clients in the classroom), clear the lease, and restart the DHCP service. (Assume that there are 60 Thin Clients in a classroom, and the RCD Server address is 192.168.1.200. Set the subnet address of the DHCP address pool to 192.168.1.0, the start IP address to 192.168.1.2, and the end IP address to 192.168.1.199.

Clear the lease and restart the DHCP service). It is recommended that you disconnect the classroom from the external network to prevent other DHCP servers from affecting the upgrade in iPXE mode.

- 4. After the DHCP address is configured, choose Thin Client Upgrade > Upgrade . Click Prepare for the corresponding image. Set the distribution mode to the default multicast mode. Click Config Wizard. Add all online Thin Clients in the candidate list to the to-be-upgraded Thin Client list (ensure that all Thin Clients are successfully connected). Click Prepare. After all Thin Clients are ready, click Upgrade to install the Thin Client system installation.
- 5. After the ROMs of the Thin Clients are successfully upgraded, click **About**. The displayed system version is RainOS\_V1.0\_R1.8\_X/L/A.

#### Q3: Common problems occurring in the upgrade of the Rain100 or Rain200 in iPXE mode

Phenomenon 1: After **Kickout** is clicked on the Web page and the Thin Client is restarted, the **Image** page is displayed again. Check the size of the DHCP address pool. Clear the lease and check whether there are other DHCP servers and whether the DHCP server is restarted.

After you click the upgrade in iPXE mode, the **Image** page is displayed again. Click **Thin Client Preparation** on the web UI to prepare the Thin Clients again.



Phenomenon 2: An error shown in the following figure occurs. You need to manually restart the Thin Client. After restart, the Thin Client automatically enables the iPXE function.



Phenomenon 3: If a page in red background is displayed, where **Restart**, **Shut Down**, **Enter CMD**, and **Back** are displayed, press **Enter** to select **Enter CMD** and enter **/var/log/clonezilla.log** to check whether the image is correct.



Phenomenon 4: The PXE function is available on the Thin Client, but the Thin Clients cannot obtain IP addresses in iPXE mode. In this situation, you can use the PXE upgrade mode.

### Q4: Why don't some non-Ruijie switches support iPXE?

Phenomenon: A classroom uses non-Ruijie switches such as Huawei 57 series switches. The Thin Clients of the Cloud Class cannot be upgraded in iPXE mode.

Cause analysis: Generally, the UDP multicast package suppression function is enabled on these non-Ruijie switches by default. However, the iPXE uses the multicast mode to perform batch operations.

Solution: Log in to Huawei switch using a configuration cable and run **stp disable** for all ports of Huawei switch.

#### Q5: How to recover a Thin Client after upgrade failure?

After the upgrade for a Thin Client fails, you can use the following method for recovery:

- 1. Upgrade a Thin Client that is ready to be upgraded. After the upgrade is successful, power off the Thin Client.
- 2. Disable the image distribution function, clear the DHCP lease, restart the DHCP server, and enable the image distribution function again. If the upgrade of a Thin Client fails, replace the network cable with a new one, enable the Thin Client, and try the upgrade again in iPXE mode.

3. During the upgrade, if the power is interrupted or the image distribution is terminated accidentally, you can use only the PXE mode to upgrade.

#### Q6: Common causes for RCD Server upgrade failure in USB flash drive mode

- 1. Ensure that the MD5 value in the ISO file used for RCD Server upgrade is correct. After the upgrade file is downloaded, verify the MD5 value.
- 2. For the USB flash drive that has been used, write 0s. Open the UltraISO and do not select any file. Write 0s, and format the USB flash drive.
- 3. Replace the USB flash drive.

### 8.4 Use

#### Q1: Why is the screen broadcast function of the ClassManager Rainbow unavailable?

- When installing the RG-ClassManager 3.0, it is recommended to disable or exit the security guard or antivirus software. After the RG-ClassManager 3.0 is successfully installed, restart the ClassManager\_Teacher PC. After the ClassManager\_Teacher PC is successfully restarted, add the installation directory of RG-ClassManager 3.0 to the whitelist of the security guard or antivirus software.
- 2. Check whether the 360 Wi-Fi or VPN is enabled on the ClassManager\_Teacher PC. If yes, disable them because they will affect the obtaining of the ClassManager\_Teacher PC IP address by the Thin Client.
- 3. Check whether the switch model is as224-gt or es224-gt. If yes, run the **no ip igmp-snopping** command.
- 4. Check whether the underlying system needs to be upgraded. On the **Image** page, check whether the system version number is consistent with that in the release notes.
- 5. Check whether the IP address of the Thin Client and gateway address are correct and are in the same network segment as the ClassManager\_Teacher PC.
- 6. Scan the Thin Clients on the CM3.0\_Teacher PC. Check whether the addresses of the RCD Server and ClassManager\_Teacher PC are correctly configured on the ClassManager\_Student.
- 7. To use the automatic scanning mode, you can uniformly set the IP address of the ClassManager\_Teacher PC to 0.0.0.0 (automatic scanning) on the Thin Clients.

#### **Q2: Common ClassManager Rainbow authorization problems**

#### Q1: How to perform authorization when RCD Servers are deployed in stack or cluster mode?

There are two authorization modes for RCD Servers deployed in stack or cluster mode:

In stack mode, you can bind each RCD Server with one authorization code and then import the authorization codes to the Master RCD Server.

Master RCD SN ————license key 1
Slave RCD SN Bind license key 2 Import Master RCD
Computer node SN license key 3

In cluster mode, you can bind the master RCD Server with each authorization code and then import the authorization codes to the master RCD Server.



# Q2: How to unbind the authorization when the RCD Servers are deployed in stack or cluster mode? Can each RCD Server be deployed in standalone mode?

If the first authorization mode described in Q1 is used, you can directly release the cluster without unbinding the authorization. Then, each RCD Server is changed to work in standalone mode.

If the second authorization mode described in Q1 is used, you need to unbind N-1 authorization codes (assume that there are N RCD Servers) from the master RCD Server in the PA system. Then, independently authorize the original slave RCD Servers and computing nodes.

# Q3: If authorization A imported into the RCD Server is incorrect and it is unbound, and new authorization B is generated, do I need to delete the previously imported authorization A and how can I delete it?

You do not need to delete authorization A. The authorization detection function of the RCD Server is associated with the PA system. The RCD Server works normally as long as a correct authorization code is configured regardless of how many incorrect authorization codes are imported to the RCD Server.

#### Q4: How long can the ClassManager\_Teacher be available without a license by default?

A: 45 days

#### Q5: Is the ClassManager\_Teacher completely unavailable after 45 days?

A: Only some functions are available, for example, start, screen broadcast, and remote shutdown

# Q3: A static IP address is correctly configured for a Cloud Desktop. After the class starts using the CMR, the IP address is abnormal. How to rectify the fault?

Perform the following steps to locate and rectify the fault:

- 1. Check whether the IP address of the Cloud Desktop conflicts with that of the Thin Client and whether the range of the DHCP address pool covers the IP addresses in the Cloud Desktop list. If yes, adjust the range of the DHCP address pool.
- 2. Log in to the Thin Client and check whether its IP address conflicts with the IP address of another PC in the current network environment. On the Cloud Desktop, run cmd, and then run the ipconfig command. Record address 169.254.x.x and the RCD Server name of the Cloud Desktop. End the class using the CMR. Change the IP address of the Cloud Desktop. Start a class again. Check whether the Cloud Desktop can obtain a new IP address. (If an IP address cannot be successfully pinged, it does not indicate that the IP address is not used, but the ping function may be disabled on the device.)
- Check whether the Guest-Tool in the image is upgraded to a version matching the RCD Server. Check whether processes
  vdagent.exe and vdservice.exe exist in the image and task manager. If not, the Guest-Tool may not be properly installed.
  It is recommended to edit the image and re-install the Guest-Tool.
- 4. Check whether any suspicious process (such as viruses or Trojan horse) exists in the image. Scan the software to be installed in the image to remove viruses and then upload it to the image. Check whether the image is normal. Use a clean image (a standard image without any software) to start a class. Check whether address conflict occurs.

### Q4: How to expand the capacity of drive C for an image?

1. In the image, set System Config to Custom. Set Hard Disk Space(GB) to 30 or 40, which is appropriate.

System Config : 🔘 Star	ndard(Recommended) 🔘 High	<b>Ο</b> Cι	istom
* CPU Count :	1	~	
* Memory(MB) :	2048	\$	
* Hard Disk Space(GB)	зр 🗙	\$	
Used(GB)	4 Refresh		
* CPU Type -	host	~ <b>(</b> )	Default is recommended. Contact technical support before

- 2. Enable the modified image and complete the memory capacity combination.
  - a) In Windows 7, right-click **Computer** and select **Manage** > **Disk Management**. Right-click drive C and select **Extend Volume**. Click **Next** until the expansion is completed.

Volume	Layout	Type	File System	Status
🕞 (C:)	Simple	Basic	NTFS	Healthy (System, Boot, Page File, Active, Crash Dump, Primary Partiti
🗀 (D:)	Simple	Basic	NTFS	Healthy (Primary Partition)
📼 (E:)	Simple	Basic	NTFS	Healthy (Primary Partition)
•				
Disk	0			
Basic	D	(C:)	<u>/////////////////////////////////////</u>	(D:) (E:)
405.76 G	в		1 GB NTFS //	150.01 GB NTFS 215.75 GB NTFS
Onine		Healt	ny (System, B	soot, Pa, Healthy (Primary Partition) Healthy (Primary Partition)

b) In Windows XP system, download the PartitionMagic8.0. In the image, run the PartitionMagic8.0 and adjust the capacity of drive C. After the adjustment is completed, uninstall the software.

# Q5: Why does a Thin Client display only the teacher's shared directory but the student's shared directory is not displayed?

Phenomenon: Only the teacher's shared directory is displayed on the Thin Client.

Cause: The student's shared directory is cut on the ClassManager\_Teacher.

Solution:

Solution 1: Shut down the CMR teacher PC. On the web UI of the RCD Server, choose **Classroom** > **Policy**. Disable and then enable the option for automatically mounting the network disk. Then, start the CMR teacher PC.

Solution 2: Inform the teacher to back up the student's shared directory in advance. If it is cut, copy the backup directory and paste it back.

### Q6: Why can't the teacher's shared disk and the student's assignment disk be accessed on the ClassManager\_Teacher PC?

Phenomenon: The teacher's shared disk and the student's assignment disk cannot be opened on the ClassManager\_Teacher PC.

Cause: After the ClassManager\_Teacher is upgraded, the function of automatically mounting network disks is not enabled. Solution:

- 1. In the end class state, on the web UI of the RCD Server, choose **Classroom** > **Policy**, and select the option for automatically mounting network disks.
- 2. Check whether the security guard or antivirus software is installed on the ClassManager\_Teacher PC. If yes, add the RCC\_ClassManager\_Teach directory to the trust zone or whitelist of the antivirus software. In Windows 7 system, excessive default system permissions will cause a mounting script running failure on the CMR. You can modify the system permissions, and restart the ClassManager\_Teacher PC.

## 8.5 Maintenance

### Q1: Why can't the RCD Server start up normally?

Phenomenon: After the RCD Server is powered on, it cannot normally start.

Check whether the fault is caused by a software or hardware failure as follows:

- Connect a display to the RCD Server. Check whether the RCD Server is normally started up. Press the **Delete** button to check whether you can access the BIOS normally. If you can access the BIOS, check whether the SSD is correctly identified. If the SSD cannot be identified, the SSD is faulty, and you can call service hotline 4008. If the SSD can be identified, the RCD Server software is faulty. You can re-install the RCC system software on the RCD Server by using the USB flash drive.
- 2. If you cannot access the BIOS, perform the following steps:
  - a) Check whether the memory module of the RCD Server is loose. Remove and then insert the memory module and button battery.
  - b) If the RCD Server cannot be started yet, use an eraser to clean the edge connector (a protruding part of a memory module that is inserted into an expansion slot) and insert it to the memory slot because exposed edge connector may be oxidized and causes poor contact.
  - c) If the RCD Server cannot be started yet, remove the memory modules until only one is left. If the RCD Server can be started, insert another memory module, and then boot the system again. If the system cannot be booted after you insert a certain memory module, this memory module is faulty.
- 3. If the fault persists, call service hotline 400 for DOA processing.

# Q2: Why does the startup cost a long period of time after the RCD Server encounters a power failure?

Phenomenon: After the RCD Server encounters a power failure, it takes more than 20 minutes to start up.

Fault cause: The RCD Server V1.1.x has a software bug. In certain power failure scenarios, this bug is triggered, resulting in long startup duration. Upgrade the RCD Server V1.1.x to RCD V3.0 to fix the bug.

In extremely few cases, after the RCD Server encounters a power failure and is started up again, there is no output on the connected display. In such cases, remove and insert the memory modules and button batteries.

# Q3: Why are certain Rain Thin Clients stuck at the shutdown screen for about five minutes when they are remotely shut down using the CM2 teacher software?

Phenomenon: When Thin Clients are remotely shut down using the CM2 teacher software, certain Thin Clients are stuck at the shutdown screen.

Solution: Access the BIOS. In **Advanced/ACPI Settings**, set **EUP Support** to **ENABLE**. Save the settings and restart the system. Access the BIOS again, set **EUP Support** to **DISABLE**. The fault is rectified.



#### Q4: How to correct the DNS configuration of a Cloud Desktop?

- The DNS configuration of the Cloud Desktop is synchronized from the DNS configuration of the RCD Server. Therefore, you need to only modify the DNS configuration on the RCD Server. To modify the DNS configuration, log in to the web management UI of the RCD Server, and choose System > Network Settings > Edit. Modify the DNS configuration.
- 2. On the Cloud Desktop, choose **Classroom**, add one Cloud Desktop to the Cloud Desktop list, delete the Cloud Desktop (trigger the Cloud Desktop synchronization), and then start a class to check whether the DNS configuration is correct.

# Q5: What are the operation precautions after the motherboard of the RCD Server is replaced?

Context:

Because the system of the RCD Server is stored in the storage disk, the system data is retained after the motherboard is replaced. You do not need to upgrade the system. Pay attention to following points:

- 1. After the motherboard is replaced, the NIC hardware is changed. The OS can identify the new NIC, but the information about the old NIC still remains in the system, resulting in the network interruption. Therefore, you need to reset the network.
- 2. After the motherboard is replaced, the SN is null or is not a correct Ruijie SN. You need to re-program the SN. Otherwise, authorization problems may occur.

Key operation points:

1. Manually record the IP address of the RCD Server, and record the original SN (or record device exterior information) so that you can re-upgrade the original SN after the motherboard is upgraded.

	RCD Network Configuration
Monagement Network ConFiguration     Ponagement Network Test     Monagement Network Restarting     Nonagement Network Recovery     System Time	Server Mode Local: RCD server is installed in the classroom. The server and clients connect to the same switch. Cluster: RCD server is installed in the data center. The server and clients connect to different switches.
Factory Test     System Logs     System Information	Network Mode Normal: The cloud desktops and clients use campus IP addresses. Save: The clients use private IP, and cloud destops use campus IP addresses o private IP addresses.
System configuration reset     Log But	NIC Bond If NIC Bond isn't selected, the situation has better compatibility, and each NIC needs an IP. If it is selected, the situation has characteristics of redundancy and load balance.
	(X) RCD Local Hode ( ) RCD Cluster Hode
	() Network Normal Hode (X) Network Save Hode
	[ ] NIC Bond
	IP Address: 192.168.122.1 Slave IP: 192.168.122.2 IP Mask: 255.255.255.255.0 Uan@ Mask: Gateway: 192.168.1.1 DMS: 114.114.114.114
	< OK > < Reset >
	RCD Role

2. After the motherboard is replaced and the system is started up, the configuration screen is displayed (if not, check the hardware).



- Access Management Network Recovery. Select Restore Network. In the displayed dialog box, click OK to reset the network.
- 4. Restart the system and access the preceding screen again.
- 5. Access Management Network Recovery. Configure the backup IP address.
- 6. After the system is restarted, the system is restored to the state before motherboard replacement.
- Request professional personnel to re-program the original SN. Otherwise, other SNs may encounter errors such as 00001.
   If a new SN is programmed, ensure that the SN has been recorded in Ruijie PA system.

# Q6: What's the LAN1/LAN2 used for? Load balance? If the lan1 down, can all switchover to lan2?

A: two NICs each one support half thin client service, if the lan1 down, only half thin client will switch over to lan2.

#### Q7: In real deployment, is it need to use both two ports?

A: Yes, we need to use both two ports of RCD server.

#### Q8: sounds likes there is no different if we use LACP for LAN1/2 or separate it?

A : Summarized like this: for separate's port, if one is down, half thin client will be gone, if aggregate port, still remain all thin

client, but a little bit slow. In other words, only one lan port for all thin clients, which may affect the performance.

**Q9:** What is the bandwidth required for each thin client?

A: About 3-4Mbps

# Q10: If server down, all client will go down also? How if hard disk on RCD broken? Can use external storage to store user/OS Data?

A: Yes, if server down, all client will go down also, we cannot support external storage for now.

Q11: If work on the mode 3, is it private mode completely?

A: Yes, except there is a virtual wan IP address of RCD server.

Q12: Can RCD server and thin client be in difference subnet?

A: No, cannot.

**Q13:** How to connect the port 1 and port 2?

A: Connect both Lan 1 and Lan 2 of RCD server to switch.

Q14: Can RCD run Raid?

A: We cannot support the Raid now.

### **Q15.** What is the period we recommended for backup the RCD storage? Monthly?

A: Monthly.

Q16. Any gigabit switches managed or unmanaged also can work right?

A: Yes. Any gigabit switches can work.

# Q17: From what is understand the server can have share folder for student....what if the folder attack by virus

A: Recommend to disable the internet access and USB devices, so there will be less chance for student upload virus to

shared folder.

## Q18: supports auto backup right? Or needs manual backup?

A: Needs manual backup

Q19: Just saw RCM's poster, it said support RAID and so on....is it the next version of RCD?

A: Not support RAIN in current RCD version.

## **Q20:** Normally, we just need to upgrade all from RCD, right?

A: Yes.

### Q21: If the teach PC corrupted, the class manager need to reinstall?

A: Reconfiguring the teacher IP address on RCD server is ok.

Q22: How do we calculate the maximum resource for each thin client can get from the RCD server?

A: Check this info on image page.

### **Q23:** Heard that RCD need to weekly reboot for clearing the cache?

A: Yes.

Q24: Disable Internet is disable layer 3 routing, including intranet network, right?

A: it will disable the internet access not including intranet network.

**Q25:** How many OS Linux and windows already tested so far?

A: XP, Windows 2003, Windows 2008, Window 7, Windows 8, Windows 10, Ubuntu, Centos, Fedora

Q26: Does the quiz can be random? Like in the examination each student should get difference sequence.

A: Not. The quiz can be random

# Q27: The works only with office 2010 right? If we use new office version this workspace cannot support? When will have the fix?

A: Only Office 2003, Office 2007, Office 2010 are supported.

- Q28: the prompt shows the associated image files is in use, not response after click "save and enable", how can we solve this issue?
- A: Solution: login to RCD server  $\rightarrow$  Home Page  $\rightarrow$  More  $\rightarrow$  login or shutdown

Edit Image Template
*Image Name : Windows2008_Test
Image File Name : Windows2008_Test.base
*OS: Windows 2008 ~
Enable : Disabled image is not displayed on Thin Clients.
* Desktop Backup : Recommended for Exams
* System Config : Standard(Recommended) High Custom
Tips: Standard: For Interny High: For VM runnin The number of supp BCD5000: 60 Claud I
<ul> <li>RCD5000, 00 Cloud Desktops recommended for standard mode; 30 Cloud Desktops recommended for high mode.</li> <li>RCD5000 V2: 60 Cloud Desktops recommended and 35 maximum for standard mode; 15 Cloud Desktops recommended for high mode.</li> <li>RCD4500: 45 Cloud Desktops recommended and 48 maximum for standard mode; 22 Cloud Desktops recommended for high mode.</li> <li>RCD4500 V2: 45 Cloud Desktops recommended and 50 maximum for standard mode; 22 Cloud Desktops recommended for high mode.</li> <li>RCD4500 V2: 45 Cloud Desktops recommended and 50 maximum for standard mode; 22 Cloud Desktops recommended for high mode.</li> </ul>
Before adding or editing images, install <u>Admin-Tool</u>
Edit Save and Enable Cancel

Note: when you edit the image again, remember to use the Windows OS's shutdown function to end the Image Creation, the AdminTool window will disappear automatically once the Image is shutdown

mputer							23	
		Computer 🕨 Local Dis	k (D:) 🕨	<b>-</b> 4 <sub>7</sub>	Search Local Disk (D:)		P	
	Organize 👻	🖬 Open 🛛 New fold	er				0	
yele Bin	☆ Favorites	Name	^	Date modified	Туре	Size	^	
	Deskton	🕑 en_offi	ce_professional_plus_2016_x86_x64	12/7/2017 1:40 PM	Disc Image File	2,365,224 KB		
	Downloads	Fz FileZilla	_3.14.1_win64-setup	11/24/2017 7:47 AM	Application	6,387 KB		
2	Secent Plac	es 🛃 Flash8-	chs	11/7/2017 7:06 PM	Application	126,938 KB		
	22 Recent ride			11/20/2017 7:59 AM	LUA File	102 KB		
Getting Started	•			11/20/2017 6:26 AM	LIC File	1 KB		
			prageWorkload	11/20/2017 6:25 AM	Application	298 KB		
🗿 Windows Media C	enter		2	11/20/2017 6:26 AM	Application	899,406 KB		
			2901907-x86-x64-AllOS-ENU	11/20/2017 6:25 AM	Application	68,359 KB		
Calculator			istaller	12/18/2017 8:12 AM	Application	4,113 KB		
-		Documents	3合1%29.rar	11/20/2017 6:24 AM	RAR File	1,237 KB		cord
Sticky Notes				11/20/2017 6:24 AM	Application	4,147 KB		
Spinning Tool		Pictures	Tool_General_Setup	12/5/2017 9:46 AM	Application	3,240 KB		
Shipping room		Music	nager_Student_V3.1_R1P5T22	12/5/2017 9:45 AM	Application	3,188 KB	=	
Paint			nager_V3.1_R1P5T22.56	12/7/2017 1:38 PM	Compressed (zipp	152,531 KB		-3
		Games	min_Tool_V3.1_R1P5T22.56	12/7/2017 1:40 PM	Compressed (zipp	55,497 KB		
Remote Desktop (	Connection			11/20/2017 8:01 AM	Application	3,537 KB		
		Computer		11/7/2017 7:06 PM	Text Document	1 KB		
Magnifier			office_Professional_Plus_2010	11/20/2017 6:27 AM	Disc Image File	749,370 KB		
		Control Panel	_1.0_XiaZaiBa	11/20/2017 6:24 AM	Application	244 KB		
Solitaire		Devices and Printers	_1.0_简单激活工具.rar	11/20/2017 6:24 AM	RAR File	189 KB	-	
			Switch user	seasted: 12/5/2017 0.46	0.04			
Microsoft Word 20	010	Default Program	Log off Date	created: 12/5/2017 9:40	AIVI			
			Lock					
All Programs		Help and Suppo	Restart					
			incatoric					

Rujie Cloud Class		$( \cdot )$				😧 Config Wize	ard 🥐 Help	(i) About	8 admin logout
👩 Home Page					Total: 1 Server(s)				
🖲 Image		Install Software	Cre			Serve		(Details)	
Classroom		Default_Classroom						•Class Ongoi	ng •No Class
RCD Server		No Class		5	1	0	0	Ü	
(#) System	Ý	Start Class		Image	Total Clo	ud Desktop	Active Cloud I	Desktop	
X Maintenance	Ŷ	Cloud Desktop List					Batch Restart Bato	h Shutdown Shu	tdown Thin Client
( T) Upgrade	v	Cloud Desktop Name	RCD Server In	nage File	Thin Client	IP Thin Client MAC	Virtual Interface Memo	ry (MB) Action	
		📄 🔊 admin	192.168.100.2 W	/indows2008_Test.img			5900 1024	Resta	art More ^
									Shutdown
									Login
									Switch

Q29: Why Thin Client shows connecting fail?

A: The possible cause is no cloud desktop created yet. We need to create cloud desktop on Config Wizard or create it on classroom page.

Q30: Do we need to renumber the cloud desktop after re add the cloud desktop on classroom page.

A: Yes It is.

Ī	Classroom	Clo	ud Desktop List					•	atch Add Add	Delete More -	
	RCD Sequer	Total	records: 2. Current Page: Rec Cloud Desktop Name	cord 1 to 2 Network Mode	Cloud Desktop MAC	Cloud Desktop IP	Thin Client IP	200 Thin Client MAC	Records Per Page 0 Thin Client Name	So to Page 1 / 1 So I 4 4 F	i
	1) System		stu-002		52:54:00:18:CE:70	172.16.1.12	÷	Resource Not Used		Edit More v	
	-										

#### Q31. How to add the student account?

A: Recommend to import the student account via workspace of RCD server, the password of the account is optional. Log in to the RCD Server as an administrator, go to System  $\rightarrow$  Workspace, and click "Confg" on the upper right corner

Rulie Cloud Class	$\langle \cdot \rangle$	Onfig Wizard	? Help	(i) About	8 admin	logout
	Workspace		Upload	Refresh	Config Para	meter
	Name				Action	
	RG-WorkSpace_Server_V3.1_R1P5T21.55.tar.gz					
RCD Server						
Custom						
System						
Custom Setting						
System setting						
Workspace						
HA Setting						
🛞 Maintenance 🗸						
T Upgrade v						
RCD Server ×	🕜 Workspace × 🕐 Workspace × 🛓 下館内容 ×				θ -	o ×
Rujie	oov/g/moex.php/apps/mes/uackmanage.php/cm=systemsetung		Welcome.ac	imin 💡 Rese	password	Log out
Account Management	System setting			1.53		
° Class	Space User					
° Teacher						
° Student						
Archive Management						
System Settings	[] Heart 0.2 (B) (03)	Student 3(75	0			
	Free. 61 4999. 8 BB (100%)	Teacher : 1 (25)	5			
	Storage Settings					
	Teacher Limit: 100 GB *					
	Student Limit: S0 MB *					
	Alarm Threshold: 80 % If the storage exceeds the threshold, an alarm will be displayed on ClassManager and Web					
	School type					
	ertmary//unior mign/semior high school     @University/College					
	Student Login					
	Password-exempt					
						1
	Password-required					

Q32. Why cannot enter the operation after installing the image.

A: Solution: Request to install the guest tool first, the guest tool is equivalent to the driver of the operating system



## Q33. What is the possible reason for upgrading fail via USB?

A: It is necessary to burn the system file with UltraISO, otherwise it may cause unknown exception.

O UltraISO (Trial Version)			
File Actions Bootable Tools O	ptions Help		
🗋 🖻 • 🕭 🖩 🕼 🗳 🖳	Q 🔮 🧭 🍺 🔍 🤅	) 🕼 Total Size: OKB	0% of 650MB - 650MB free
Image: Data CD/DVD	★ × P □ 63 # 60	Path: /	
20161031_105846	Filename	Size Type	Date/Time L
Laura		III	t the ICO Files
	D 🗁 🗙 너 🕅 🕅 🕅	Path: L:\Users\Administrator\Docun	nents\My ISU Files
My ISO Files	Filename	Size Type	Date/Time
● ● Documents ● ● ● Desktop ● ● ● 系统(C:) ● ● ● 教件(D:) ● ● ● 文档(E:) ● ● ↓ CD/DVD Drive(G:) ● ● ↓ CD/DVD Drive(H:)			
Copyright (c)2002-2015 EZ	B Systems, Inc.	Image: 0 files, 0 KB	Local: 0 files, 0 KB

## Q34: Why some features of the CMR-teacher cannot work?

A: Request to install the CMR-Student component on cloud desktop first. Once OS installation done, go to "My Computer" -> D:\ drive to install CMR-Student component

<ul> <li>++</li> <li>Date modified</li> <li>12/7/2017 1:40 PM</li> <li>11/24/2017 7:47 AM</li> <li>11/2017 7:66 PM</li> <li>11/20/2017 7:59 AM</li> <li>11/20/2017 6:26 AM</li> </ul>	Search Local Disk (D) Type Disc Image File Application Application	Size 2,365,224 KB 6,387 KB	•	
Date modified 12/7/2017 1:40 PM 11/24/2017 7:47 AM 11//2017 7:66 PM 11/20/2017 7:59 AM 11/20/2017 6:26 AM	Type Disc Image File Application Application	Size 2,365,224 KB 6,387 KB	0	
Date modified 12/7/2017 1:40 PM 11/24/2017 7:47 AM 11/7/2017 7:06 PM 11/20/2017 7:59 AM 11/20/2017 6:26 AM	Type Disc Image File Application Application	Size 2,365,224 KB 6,387 KB	^	
12/7/2017 1:40 PM 11/24/2017 7:47 AM 11/7/2017 7:06 PM 11/20/2017 7:59 AM 11/20/2017 6:26 AM	Disc Image File Application Application	2,365,224 KB 6,387 KB		
11/24/2017 7:47 AM 11/7/2017 7:06 PM 11/20/2017 7:59 AM 11/20/2017 6:26 AM	Application Application	6,387 KB		
11/7/2017 7:06 PM 11/20/2017 7:59 AM 11/20/2017 6:26 AM	Application	126 029 12		1000
11/20/2017 7:59 AM 11/20/2017 6:26 AM	111A File	100,000 100		
11/20/2017 6:26 AM	LOMINE	102 KB		
	LIC File	1 KB		
11/20/2017 6:25 AM	Application	298 KB		
11/20/2017 6:26 AM	Application	899,406 KB		
11/20/2017 6:25 AM	Application	68,359 KB		1
12/18/2017 8:12 AM	Application	4,113 KB		1
11/20/2017 6:24 AM	RAR File	1.237 KB		enriel
11/20/2017 6:24 AM	Application	4.147 KB		LOIG
12/5/2017 9-45 AM	Application	3.240 KB		
12/5/2017 9:45 AM	Application	3,188 KB	10	
12/7/2017 1:38 PM	Compressed (zipp	152,531 KB		· · ·
12/7/2017 1:40 PM	Compressed (zipp	55.497 KB		
11/20/2017 8:01 AM	Application	3.537 KB		
11/7/2017 7:06 PM	Text Document	1 KB		
11/20/2017 6:27 AM	Disc Image File	749.370 KB		
11/20/2017 6:24 AM	Application	244 KB		
11/20/2017 6:24 AM	RAR File	189 KB		
	12/18/2017 8:12 AM 11/20/2017 6:24 AM 12/20/2017 6:24 AM 12/5/2017 9:46 AM 12/5/2017 9:46 AM 12/7/2017 1:38 PM 12/7/2017 1:40 PM 11/20/2017 8:01 AM 11/7/2017 7:06 PM 11/20/2017 6:27 AM 11/20/2017 6:24 AM	12/18/2017 8:12 AM         Application           11/20/2017 6:24 AM         RAR File           12/2017 0:24 AM         Application           12/5/2017 9:45 AM         Application           12/5/2017 9:45 AM         Application           12/5/2017 9:45 AM         Compressed (zipp           12/7/2017 1:38 PM         Compressed (zipp           12/7/2017 3:45 AM         Application           12/7/2017 3:40 PM         Compressed (zipp           11/20/2017 3:01 AM         Application           11/20/2017 6:27 AM         Text Document           11/20/2017 6:27 AM         Disc Image File           11/20/2017 6:24 AM         Application           11/20/2017 6:24 AM         Application	12/18/2017 8:12 AM         Application         4,113 KB           11/20/2017 6:24 AM         RAR File         1,237 KB           11/20/2017 6:24 AM         Application         4,147 KB           12/5/2017 9:45 AM         Application         3,240 KB           12/5/2017 9:45 AM         Application         3,188 KB           12/7/2017 1:38 PM         Compressed (hipp         152,531 KB           12/7/2017 1:30 PM         Compressed (hipp         55,497 KB           11/20/2017 8:01 AM         Application         3,537 KB           11/7/2017 7:06 PM         Text Document         1 KB           11/20/2017 6:27 AM         Disc Image File         749,370 KB           11/20/2017 6:24 AM         Application         244 KB           11/20/2017 6:24 AM         Aprication         244 KB           11/20/2017 6:24 AM         Aprication         244 KB	12/18/2017 8:12 AM         Application         4,113 KB           11/20/2017 6:24 AM         RAR File         1,237 KB           11/20/2017 6:24 AM         Application         4,147 KB           12/5/2017 9:45 AM         Application         3,240 KB           12/5/2017 9:45 AM         Application         3,188 KB           12/7/2017 19:45 PM         Compressed (zipp         152,531 KB           12/7/2017 19:45 PM         Compressed (zipp         55,497 KB           11/20/2017 8:27 AM         Application         3,537 KB           11/20/2017 6:24 AM         Application         3,537 KB           11/20/2017 6:24 AM         Disc Image File         749,370 KB           11/20/2017 6:24 AM         Application         24 KB           11/20/2017 6:24 AM         Aprication         24 KB           11/20/2017 6:24 AM         RAR File         189 KB

Q35: Why there is no OS for selection after completing the image installation?

A: only when the image is enable can it be displayed on the thin client.



Q36: How to check current IP address of the RCD server if we forget the configuration?

Ruijie Cloud Desktop(RCD) Server 1 Build Date:20141201 Ruijie©2013	.1_R1.12		
Technical Forum: support.ruijie.co Service Hotline: 4008-111-000	m.cn		
(F2) Custonize Sustendieu Lors	(CTRL+F) Factorutest	(F12) Shut Down/Restart	

A: Connect the server to the display, press **F2** to display the system configuration.

## Q37: How to apply for temporary license for RCD server?

A: login to the PA system to apply for the temporary license

PA login address: http://pa.ruijie.com.cn

Public account used for applying for the ClassManager license is as follows:

User name: classmanager or classmanager1 or classmanager2

#### Password: ruijie

Temporary Licens	e Unbind License
Location: Homepage > Bind License	
• Add	
Customer: 请先输入客户_称(唯一)	•
Email :	
Contact Number :	
* Industry :	
Province :	
• City :	
Work Place :	Please enter your work place and its address. In the case of license missing, we will verify this information to help yo
是否手动输入SN: 🗌	
• Upload DAT : 🛖 Add	
Authorization Code1 :	Add Cit 📾 😲 🕽
	Complete Cancel

#### Q38: How to login to the RCD server when it is used initially?

A: You could login to the web UI of RCD server. The default IP address of the RCD server is 192.168.122.1/24 and

192.168.122.2/24. Both username and password are admin. Remember to connect the NIC port.



### Q39: Why no response when clicking the account function on CMR-teacher?



A: The IP address of the workspace is wrongly configured, it should be RCD server IP address. Log in to the RCD Server as an administrator, go to **System** -> Workspace, and click "Parameter" on the upper right corner and change the workspace server IP address.

68.	100.251/main.jsf#
AC	R Ruijie 🕜 Speedtest 💶 YouTube 🕶 WeTransfer W Wiki 🥟 Information Techn 🔓 GetintoPC 💠 win10中文语言包安 🛆 MACC-base
	Config Wizard
	Parameter
	Workspace Server IP : 192.168.100.253
	Workspace Server Port : 9000
	OK Back
~	

# 9 Product Limitation

# 9.1 Translation problems

"Edit" means modify the operating system parameters and won't enter the system after clicking it.

"Save and Enable" means modify and start, you can enter the landing system to complete the configuration.

it Image Template	>
*Image Name · Windows2008_Test	
Image File Name : Windows2008_Test.base	
∗OS: Windows 2008 ✓	
Enable : 🔲 😗 Disabled image is not displayed on Thin Client	ts.
* Desktop Backup : Recommended for Exams	
* System Config: 🧿 Standard(Recommended) 🔘 High 🔘 Custom	
The number of supported Cloud Desktops varies with different RCD Servers as follows:	
IIps : Standard: For Internet surfing, work and study. High: For VM running, graphics rendering and code compling. The number of supported Cloud Desktops varies with different RCD Servers as follows:	
<ul> <li>RCD6000: 60 Cloud Desktops recommended and 65 maximum for standard mode; 30 Cloud Deshiph mode.</li> <li>RCD6000 V2: 60 Cloud Desktops recommended for standard mode; 30 Cloud Desktops recommended and 35 maximum for standard mode recommended for high mode.</li> <li>RCD4500: 45 Cloud Desktops recommended and 48 maximum for standard mode; 22 Cloud Deshiph mode.</li> </ul>	esktops recommended for Imended for high mode. Ie; 15 Cloud Desktops esktops recommended for
RCD4500 V2: 45 Cloud Desktops recommended and 50 maximum for standard mode; 22 Cloud high mode. Befor	l Desktops recommended for
Edit Save and Enable Cance	1

# 9.2 Resolution problem

Due to the resolution problem, the scan interface is abnormal. According to the feedback from the R & D team, there is no version plan to optimize.

Th	nin client Settir	ngs			×	
$\mathcal{A}$	Scan			Renumbe	Batch Config	Batch Delete
	Num Sta MAC	Host Na Resolution	RCD Server IP IP Type	Thin Client IP	Action	
			V			
		No items found Please scan b	/			
		No items found. Please scall i	before numbering.			

## 9.3 Upgrade Time Limitation

There is no progress bar when upgrading, the system prompts upgrade for only 5 minutes, but it takes at least 15 minutes. Solution: connect the RCD Server to the display, check the current upgrading status.

## 9.4 License Limitation

Validity Period of license is showing only minutes, but no showing specific expiry date.

Solution: there is no version plan to optimize it.

	Workspace ×							0 -	□ ×
Rujie Cloud Class	<				( Config Wizard	? Help	(i) About	8 admin	logout
🗑 Home Page	License					Display SN	Export SN	Import License	j
🕲 Image	Name	Status	Validity Period	Cloud Desktop Co	unt Info				
Classroom	RCC-CM-NUM-7000012807359222.lic	Valid	64639Minute(s)	70	Details				
RCD Server									
🕃 System 🔺									
<ul> <li>Network Setting</li> </ul>									
<ul> <li>System Setting</li> </ul>									
• License									
<ul> <li>Workspace</li> </ul>									
●HA Setting									
🛞 Maintenance 🗸 🗸									
(  Upgrade									

# 9.5 Progress Bar Limitation

No progress bar shows file uploading when select the homework material on Assignment page.

WorkSpace		🕑 Download 🔄 🗆 🗙
teacher 🛛	Grade: Grade 1 V	
Homework	* Name: homework-test	
Homework Show	Material:	
🕜 Assignment		
	Description: test	
	Deadline: set deadline 😥 Students cannot submit homework after c	leadline
	ОК	

Solution: The progress bar will pop up when clicking on OK.

## 9.6 Quiz Function Limitation

The Quiz function cannot work

Solution: Request to install the office on the cloud desktop first, only office 2003, office 2007, office 2010 are supported.

## 9.7 Passing Function Limitation

Issue: the Passing function cannot work.

Solution: Request to install the flash on cloud desktop first.

Ruijie Cloud Class	teacher01 ▼ Grad	e 1 Class 3 1 /2	Sig	an In Normal	- + 🗮 🏭 Lock Sc Dis
	Passing Game	<b>(</b> )) _			Group Ranking
	😇 Group 1(1/1)	0			
Start »	11				
Screen Broadcast					
					$\sim$
Voice Broadcast					
Send File >					
Shutdown					
			curachot		
## 9.8 Display Limitation

Issue: Some rain terminals are not responding to the display screen.

Solution: Some Rain terminal needs to connect the display screen first and then power up the rain terminal.

## 9.9 Image File limitation

Issue: Fail to upload the image

Solution: The image file format should be .iso or .base.

## 9.1 Login Limitation

When the administrator logs out the RCD server, the password could be seen in a moment.

## 9.2 BMC Address Limitation

The server fails to configure the BMC address in the TUI interface, it is recommended to use Web for the configuration of the BMC address.