Installation Guide

Centerm Cloud Client Manager

CCM 6.0.000.000

Issue: 01

Date: 2016-05-24

Centerm Information Co., Ltd.



Copyright © Centerm Information Co., Ltd. 2002-2016 All rights reserved.

The information contained in this document is subject to copyright protection. Without prior written permission of Centerm, no parts of this document may be copied, extracted, reproduced, translated (into any other language) or transmitted in any form or by any means by any entity or individual. Centerm Information Co., Ltd reserves the right of final interpretation and amendment of this document.

Trademarks

Centerm and other Centerm trademarks are the registered trademarks of Centerm Information Co., Ltd.

All other trademarks or registered trademarks as mentioned in this document are owned their respective owners.

Disclaimer

The purchased products, services and features are stipulated by the contract made between Centerm and the customer. All or part of the products, services and features described in this document may not be within the purchase scope or the usage scope. Unless otherwise specified in the contract, the information contained in this document is provided "AS IS" without warranties, guarantees or representations of any kind, either express or implied.

Due to product upgrade or other reasons, the information in this document is subject to change without further notice.

Unless otherwise stated, this document is for reference only. All statements, information and recommendations in this document do not constitute the warranty of any kind, express or implied.

Centerm Information Co., Ltd.

Add:	2nd Floor, Building 22, Star-Net Sci. & Tech. Park, Juyuanzhou, 618 Jinshan Avenue, Fuzhou City, Fujian Province
Tel:	400-158-1515
Fax:	86-591-83057710
Postcode:	350002
Website:	http://www.centerm.com
Customer Service Email:	centermfw@centerm.com

Foreword

Thank you for choosing Centerm Cloud Client Manager, which was independently developed by Centerm Information Co., Ltd. Before using this product, please carefully read this Manual.

Reminder Description

Note

NOTE provides additional information (explanatory note, explanation or instruction) to emphasize or supplement the main text.

Caution

CAUTION indicates a potentially hazardous situation that, if not avoided, could result in the failure in installation/use/operation, equipment damage, data loss, performance deterioration, or other unanticipated results.

- He cloud terminal, terminal, client or Agent as mentioned in this document, unless otherwise stated, shall all indicate the computer equipment installed with CCCM Agent.
- H Unless otherwise stated, the deletion of document or record by all functional modules is irrevocable.

Revision History

Revision History describes the cumulative changes to the document. The latest document version contains all changes made in previous versions.

Document Version 01 (2016-05-24)

This version is the first official release.

Contents

Fe	preword		ii
С	ontents		. iii
1	Ove	rview	1
	1.1	Product Overview	1
	1.2	Installation Resources	2
	1.3	Requirements for Database	2
	1.4	Ports Required	3
	1.5	Requirements for Server Configuration	4
2	Dep	loyment Structure	5
3	Insta	allation and Configuration	8
	3.1	Installation Process	8
	3.2	System Initialization	14

1 Overview

Centerm Cloud Client Manager (CCCM) is a server-based application program enabling centralized management of cloud clients running Centerm programs. Consisting of multiple components, CCCM can be installed on one or multiple servers to allow single-server deployment or clustered deployment, thus enabling the management of varied number of clients.

1.1 Product Overview

CCCM consists of management server, data server, database server and load balancing server. The following diagram shows the typical layout of clustered deployment.



Management server

As a core component of CCCM, the management server provides user interface and communicates with cloud clients at the same time to carry out management operations and store operational data and files.

Data server

As a file storage server of CCCM, the data server contains a FTP Server for storing and retrieving templates, patches, OS images and other file resources.

Database server

CCCM needs to use the database server to store varied data generated during system operation. However, Centerm is not obliged to provide the installation medium and after-sales service for any third-party database product.

Load balancing server

In clustered deployment, the load-balancing server is used to redirect the access requests from clients to each management server.

1.2 Installation Resources

Resource	Installation Component
Data server installation program (CDS)	CDSsetup
Database import program (UnitedDB)	UnitedDBsetup
Management server installation program (CCCM)	CCCMsetup

1.3 Requirements for Database

CCCM supports the following database products, yet Centerm is not obliged to provide the installation files and after-sales service for any third-party database product.

- MS SQL Server 2005 Enterprise Edition
- MS SQL Server 2008 R2 Enterprise Edition
- MySQL(MySQL Community Server 5.1.52~5.7.10)
- PostgreSQL 9.4

Download database product and manual:

SQL Server 2005

Download & licensing: acquire from Microsoft

Official manual:

http://technet.microsoft.com/zh-cn/library/ms143516(v=SQL.90).aspx

SQL Server 2008 R2

Download & licensing: acquire from Microsoft

Official manual:

http://technet.microsoft.com/zh-CN/library/ms143219(v=sql.105).aspx

> MySQL

Version: 5.1.52

Download:

http://downloads.mysql.com/archives/get/file/mysql-5.1.52-win32.msi

1.4 Ports Required

This section describes the standard and custom ports used by CCCM. The following ports shall remain open.

Caution:

1. It's not recommended to change the default port number for each server. If it's needed, please record the change and make the corresponding changes during the installation of associated components.

2. If port hasn't been correctly opened, although you can still finish the installation process, your program won't function normally.

Standard ports:

Port	Protocol	Usage
1433	ТСР	Default communication port of SQL Server
3306	TCP	Default communication port of MySQL
5432	TCP	Default communication port of PostgreSQL

CCCM cus	CCCM custom ports:					
Port	Source	Target	Protocol	Usage		
443	Administrator's browser	СССМ	ТСР	Administrator accessing CCCM		
9003, 8081, 8083	Administrator's browser / other server	СССМ	ТСР	Communication between TC & CCCM		
11021, 11020	TC/ Administrator's browser	CDS	ТСР	Accessing FTP library, transmitting upgrade file		
8099	TC/ Administrator's browser	CDS	TCP	Accessing HTTPS library, transmitting upgrade file		
50000~ 50100	TC/ Administrator's browser	CDS	TCP	TC accessing FTP library, download upgrade file		
5900	Administrator's browser	тс	TCP	TC remote monitoring		

8000~ 8001	СССМ	тс	TCP UDP	Ports of management to be listened by TC
40000 39575	СССМ	СССМ	ТСР	Data caching ports of communication between CCCM servers

Requirements for Server Configuration The following sections describe the recommended hardware and software configurations 1.5

for each component to be installed.

Recommended Hardware Configurations		Operating System & Software
CPU	Dual-core 2.4GHz or higher	_ Windows Server 2003 SP2 32 bit
RAM	4G	Windows Server 2008 R2 64 bit
Free space	1G	Windows Server 2012 64 bit
CPU	Dual-core 2.4GHz or higher	– Windows Server 2003 SP2 32 bit
RAM	4G	Windows Server 2008 R2 64 bit
Free space	250G	Windows Server 2012 64 bit
CPU	Dual-core 2.4GHz or higher	Windows Server 2003 (SP2) 32 bit Windows Server 2008 P2 64 bit
RAM	4G	Windows Server 2008 K2 04 bit
Free space	250G	MS SQL Server 2005 MS SQL Server 2008 R2 MySQL 5.1.52~5.7.10 PostgreSQL 9.4
CPU	Quad-core 2.4GHz or higher	Windows Server 2003 (SP2) 32 bit
RAM	8GB	Windows Server 2008 R2 64 bit
Free space	250GB	MS SQL Server 2005 MS SQL Server 2008 R2 MySQL 5.1.52~5.7.10 PostareSQL 9.4
	Recommend Configuratio CPU RAM Free space CPU RAM Free space CPU RAM Free space CPU RAM Free space	Recommended Hardware ConfigurationsCPUDual-core 2.4GHz or higherRAM4GFree space1GCPUDual-core 2.4GHz or higherRAM4GFree space250GCPUDual-core 2.4GHz or higherRAM4GFree space250GCPUDual-core 2.4GHz or higherRAM4GFree space250GCPUQuad-core 2.4GHz or higherRAM8GBFree space250GB

2 Deployment Structure

CCCM products can be used in ordinary LAN environment. You can select different deployment modes according to different numbers of clients to be managed.

- 1. Simple mode deployment: less than 2,000 clients and no requirement for high reliability;
- 2. Ordinary mode deployment: less than 5,000 clients and no requirement for high reliability;
- 3. Cluster mode deployment: more than 5,000 but less than 30,000 clients and requiring centralized management.

Simple mode

CCCM can be deployed with the minimal resources without the need for a load-balancing server. The management server, data server and database server can be installed on the same host computer.

The following figure shows the typical topology of simple mode deployment:



Ordinary mode

CCCM can be deployed in ordinary mode without the need for a load-balancing server. The management server, data server and database server can be installed on different host computers, or certain components can be installed on the same host computer. The ordinary mode equals to the simple mode when all components are installed on the same host computer.

The following figure shows the typical topology of ordinary mode deployment:



Cluster mode

CCCM can be deployed in cluster mode with the need for a load-balancing server, a database server, at least two management servers, and multiple data servers. The management servers must be deployed on separate host computers; the data servers can be deployed on the same host computer used by the management server, or on a separate one.

Each additional 3,000 clients will need one additional management server and at least one data server. The number of data servers shall be no less than the number of management servers.

The following figure shows the typical topology of cluster mode deployment:



3 Installation and Configuration

3.1 Installation Process

This section describes the installation steps of each CCCM component. Please refer to "2 <u>Deployment Structure</u>" to determine the deployment mode and then install the corresponding components on one or multiple host computers.

Installing Database

To install the database server, please refer to the installation manual for the database product selected and the corresponding configuration notes. Supported databases are described in "<u>1.3Requirements for Database</u>".

Database configuration notes:

- Service port: if the database server is installed on separate host computers, make sure the communication port has been included into firewall exceptions.
- How Number of connections: The number of connections for database is 50*n ("n" indicating the number of manager servers).

Explanatory notes for configuring SQL Server database:

After installing SQL Server database, please reboot the operating system to make sure SQL Server environment variables take effect.

Explanatory notes for configuring MySQL database:

- In the dialog box of "MySQL Server Instance Configuration Wizard", select "Multifunctional Database".
- In the dialog box of "MySQL Server Instance Configuration Wizard", select 'UTF-8' character set.

Start Installing CCCM Suit

- 1. Double click the CCCM package (CCCMSuitSetup).
- 2. Click "Next" on the welcome interface.
- 3. Setup installation path for CCCM Suit. And Click "Next"
- 4. Check components to be installed.
- 5. On the performance test interface, the installation program will test computer performance and indicate in different colors.

Click "Next" to continue installation or click "Cancel" to abort installation.

Note:

i Green (excellent): the server performance has reached or is higher than the recommended requirements.

- ii Yellow (average): the server performance falls between the recommended requirements and the minimum requirements.
- iii Red (poor): the server performance falls below the minimum requirements.
- 6. Check and confirm the installation path, click "Install".

Installing United Database Import Package

- 1. Read all terms of "License Agreement", accept these terms by checking "I accept the agreement" and click "Next".
- 2. Create database.

Caution:

These steps require the database account to have 'Create Database' permission to create database.

Select the correct **database type** and then type in database **service port**, database **username** and **password**.

For the default communication port of database instance, please refer to <u>1.4 Ports</u> <u>Required</u>". If the database instance doesn't use the default port, please use the actual communication port of the database.

🚏 Setup - Cinfin United Database		
Import Database Please select upgrade path and dat type, then enter the database port	abase type and address and Authentication , username and password.	
Installation:	Complete Setup	
Database Type:	PostgreSQL	
Authentication Type:	V	
Server Address:	127.0.0.1	
DB Service Port:	5432	
Username:	postgres	
Password:	****	
www.centerm.com.cn		
	< Back Next >	Cancel

- 3. Use the default installation path or select another installation path, and then click "Next".
- Check and confirm the installation path and click "Install".
 On the installation completion interface, click "Finish" to exit.

Explanatory notes for configuring MySQL database:

3rd party software such as "Navicat for MySQL", "Navicate for PostgreSQL" and "Navicate for SQL Server" can check whether database import package is installed correctly.

 Open corresponding software (for instance, if you use MySQL, open "Navicat for MySQL"), Click "Connection"

😸 Navicat for MySQL							
File View Favorites Tools Window Help							
ψ.	_			-00	$f_{(x)}$		
Connection	User	Ta	able	View	Function		
MySQL			Obje	ects			
MariaDB			P op	pen Table	🔊 Design Table		

2. Enter the correct database information, test the connection to database.

🔪 MySQL - New Connection		×
General Advanced SSL	SSH HTTP	
Connection Name:		
Host Name/IP Address: Port: User Name: Password:	localhost 3306 root ✓ Save Password	
Test Connection	OK Cancel	

- 3. Double click left side of the window to expand databases, look for "cdms_terminal"
- 4. If "cdms_terminal" doesn't exist, please reinstall the database.

Installing Management Server

- 1. Select installation language. For instance: select "English".
- 2. Click "**Next**" on the welcome interface.
- 3. Read all terms of "License Agreement", accept these terms by checking "I accept the agreement" and click "Next".
- 4. On the performance test interface, the installation program will test computer performance and indicate in different colors.

Click "Next" to continue installation or click "Cancel" to abort installation.

Note:

- **#** Green (excellent): the server performance has reached or is higher than the recommended requirements.
- ¥ Yellow (average): the server performance falls between the recommended requirements and the minimum requirements.
- **#** Red (poor): the server performance falls below the minimum requirements.
- 5. Select installation type, "Standard Installation" or "Customized Installation" and click "Next"
- 6. Use the default installation path or select another installation path, and then click "Next".
- 7. In the Web certificate configuration interface, keep default settings if you have no special requirement. And click "**Next**".
- 8. Setup configuration for CCCM:

Caution:

- Local IP Address: If the local host computer has only one IP, please keep the default setting; if it has multiple IPs, please select the IP to be used by CCCM.
- Database Port: If the default communication port has been changed during database instance installation, you will need to enter the actual database port here.
- He database account must have insert, delete, update and select permissions on the database of "cdms_terminal".
- ¥ You can set the "**Mirror DB IP Address**" only after have selected to use SQL Server 2008. If you don't need to configure the image database, please leave the address blank.
- If there's no need to configure mirror database, keep the Mirror DB IP Address empty. But when SQL Server is in Main/Standby Switchover mode and the corresponding mirror database address is set, filling the correct Mirror DB IP Address will be mandatory here.

] S etup - Cloud Client Manager		. 🗆 🗵
Configuration Cloud Client Manager Configuration		
Web Server Port:	443 OK	
HTTP Comminute Port:	8081 OK	
HTTPS Comminute Port:	: 8083 OK	
Local IP Address:	_	
Database Type:	MySQL 👻	
Database IP Address:		
Mirror DB IP Address:	(Optional)	
	(Only support SQL Server 2008 or Later)	
Database Port:	3306	
Username:		
Password:		
www.centerm.com.cn		
	< Back Next > Can	cel

- 9. Check and confirm the installation path, click "Install".
- 10. After installation is finished, click "Finish".

If you are using cluster mode deployment, please repeat the above steps to install multiple management servers in cluster mode.

Installing Data Server

The data server can be installed on separate host computers, or on the same host computer where the management server is on.

- 1. Click "Next" on the welcome interface.
- 2. Read all terms of "License Agreement", accept these terms by checking "I accept the agreement" and click "Next".
- 3. On the performance test interface, the installation program will test computer performance and indicate in different colors.

Click "Next" to continue installation or click "Cancel" to abort installation.

Note:

- i Green (excellent): the server performance has reached or is higher than the recommended requirements.
- ii Yellow (average): the server performance falls between the recommended requirements and the minimum requirements.
- iii Red (poor): the server performance falls below the minimum requirements.
- 4. Select installation type, "Standard Installation" or "Customized Installation" and click "Next"
- 5. Use the default installation path or select another installation path, and then click "Next".
- 6. Configure ftp port, https port, user name and password for data server.

Note:

It's recommended to use the default communication port.

Paragraphic Server Configuration File Server Port Configuration	1			
ftp port: https port:	11021 8099		range: 1 ~ 65535 range: 1 ~ 65535	
user: pwd:	admin *****		(default Admin123!)	
www.centerm.com.cn				
///////aa/		< Back	Next >	Cancel

7. Setup configuration for FTP passive mode.

If the host computer has multiple IPs, enter the correct IP used by data server. **Note:**

It is recommended to use the default passive IP port range. If there's certain limitation on ports, the port range can be changed, but it shall be >1024.

🔂 Setup - Cinfin Data Server				
Configuration File Server FTP PASV settings				
PASV IP bind addr:	192.168.45	. 172	_	
Use custom port range:	50000	50100	(1 - 65535)	
www.centerm.com.cn		< Back	Next >	Cancel
		COUCK	NCAU 2	Cancer

- 8. Check and confirm the installation path and click "Install".
- 9. On the installation completion interface, click **"Finish**" to exit.

If you are using cluster mode deployment, please repeat the above steps to install multiple **data servers**.

3.2 System Initialization

Environment Cleanup

After the entire system is ready, log in the management system and execute the following steps. **Caution:**

If older version of management server has been installed on the computer on which the current management server is installed, and the computer accessing the web system has also accessed this server before, then you will need to execute the following steps: Open the browser (taking IE8 as an example) and use Shift+Ctrl+Delete to open the following dialog box. Check and delete Temporary Internet files.

Delete Browsing History

✓ Preserve Favorites websit	e data	
Keep cookies and temporary I websites to retain preferences	nternet files that e s and display faste	nable your favoriti r.
✓ <u>T</u> emporary Internet files		
Copies of webpages, images, a viewing.	nd media that are	saved for faster
Cookies		
Files stored on your computer b such as login information.	by websites to save	e preferences
List of websites you have visite	:d.	
Form data Saved information that you have	ve typed into form:	5.
✓ Passwords		
Saved passwords that are auto to a website you've previously	matically filled in w visited.	hen you sign in
 InPrivate Filtering data Saved data used by InPrivate F be automatically sharing details 	iltering to detect w about your visit.	here websites ma
Allow to defective foremation biotecore	Delete	Cancel

Open Control Panel and select "Java".



Delete the cached applet files, as shown below:

🕌 Java Control Panel		_			
General Update Java Sec	urity Advanced				
About					
View version information ab	out Java Control Panel.				
			1		
		About			
Network Settings					
Network settings are used v will use the network setting: modify these settings.	when making Internet connect s in your web browser.Only a	ions. By default, Jav advanced users shoul	a d		
		Network Settings			
Temporary Internet Files					
Files you use in Java applica	ations are stored in a special fo	older for quick execut	ion		
later. Only advanced users	should delete files or modify I	these settings.			
	Settings	View	1		
	ОК	Cancel App	aly		
🐇 Java Cache Viewer					×
Show: Resources				Ca	che Size: 382 KB
Name	URL	Modified	Expired	Version	Size
light NewFtpClient.jar https://	//192.168.12.144:8443/Terminal/r	nai Feb 16, 2012			382 KB

If JRE 1.7.* is installed, change following settings for host computer, to add IP address of management server host computer to exception list.

Java Control Panel	
General Java Security Advanced	
Enable Java content in the browser	r
Security Level	
	I - Very High
	– Hiab (minimum recommended)
	Madium
Java applications identified by a certii	 Mean ificate from a trusted authority will be allowed to run
Java applications identified by a certai	incate ironi a dusted addionty will be allowed to run.
Furnahian Cita Link	
Applications launched from the site	es listed below will be allowed to run after the appropriate
security prompts.	
Click Edit Site List to add items to this list.	
	Edit Site List
	Law a name of the second of
	Restore Security Prompts Manage Certificates
	OK Cancel Apply
Exception Site List	X
Applications launched from the sites listed	d below will be allowed to run after the appropriate security
prompts.	,
	Location
https://192.168.45.173	
	Add Remove
III E and HTTP protocols are considered.	ered a security risk.
FILE and HTTP protocols are conside We recommend using HTTPS sites with the second state of the second	red a security risk.

ОК