



PC-Duo Server Installation Guide

Release 13.5 Series
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Vector Networks Technologies
541 Tenth Street, Unit 123
Atlanta, GA 30318
(800) 330-5035

<http://www.vector-networks.com>

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This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (<http://www.openssl.org/>), cryptographic software written by Eric Young (ey@cryptsoft.com), and compression software from the ZLIB project (<http://www.zlib.net/>).

Table of Contents

PC-Duo Server Overview	3
PC-Duo Gateway Server (GWS)	3
PC-Duo Identity Manager (PIM)	3
PC-Duo Web Console (WC)	3
PC-Duo Server Requirements	4
Server Hardware Requirements	4
Server Operating System Requirements	5
Server Database Requirements	5
PC-Duo Server Installation	5
Fresh Install vs. Upgrade	5
Account Performing the Install	5
Service Accounts Specified/Created During the Install	5
Domain/Non-Domain and Multi-Server Install Options	6
Redistributables Needed for Installation	6
Installation Steps	6
SQL Server Configuration	8
PC-Duo Server Configuration Check	8
PC-Duo Web Console Account Management	8
Documentation	9

PC-Duo Server Overview

The PC-Duo Server is part of the On-Demand Edition of the PC-Duo Remote Desktop solution from Vector Networks, Inc. This includes the following individual components:

- PC-Duo Gateway Server (GWS)
- PC-Duo Identity Manager (PIM)
- PC-Duo Web Console (WC).

These individual components are commonly installed on the same machine as part of the bundle installer. However, it is possible to separate these components onto different servers. It is important to note that all 3 of these components share a SQL database. The SQL instance can also be installed on the same server using the bundle installer, which offers to install SQL Express, or you can specify an existing off-box SQL instance instead during the installation. In all configurations, all components must have access to the SQL database in order to function properly.

PC-Duo Gateway Server (GWS)

The Pro Gateway Server (GWS) is the component that acts as a hub and connection broker between Masters and Hosts. It serves as a central point of security management for remote access activities and facilitates such things as off-LAN access, many-to-one connections, Wake on LAN, screen recording, and more.

PC-Duo Identity Manager (PIM)

The PC-Duo Identity Manager (PIM) is the authentication service for the PC-Duo Server. It manages authentication using Windows accounts by default and can be configured to integrate with Azure Active Directory services.

PC-Duo Web Console (WC)

The PC-Duo Web Console (WC) provides browser-based management and administration of the Gateway server. This includes the importing of Windows users and groups, the specification of security for managed Hosts, initiation of clientless remote control connections right from the browser, initiation of recordings, central audit logging etc. The Host on Demand is also launched from the landing page of the Web Console.

PC-Duo Server Requirements

The following sections describe requirements and prerequisites for installing and running the PC-Duo Server:

Server Hardware Requirements

The following section describes minimum recommended specifications for the hardware needed to install the PC-Duo Server. There are a couple of assumptions made when coming up with these recommendations:

- 1) The chart below assumes all PC-Duo Server components (GWS, WC, and PIM), along with the SQL instance are installed on the same machine.
- 2) Although the chart below is sizing based on the number of managed Hosts, we assume a relationship to the number of concurrent support sessions.

Scenario	Server Hardware Requirements
Up to 100 Hosts / (4 support sessions)	<ul style="list-style-type: none"> • 2 cores CPU at 2 GHz or faster • 4 GB RAM or more • SQL Server configured for “Max Server Memory” of 2048MB
Up to 1000 Hosts / (20 support sessions)	<ul style="list-style-type: none"> • 4 cores CPU at 2 GHz or faster • 8 GB RAM or more • SQL Server configured for “Max Server Memory” of 4096MB
Up to 5000 Hosts / (60 support sessions)	<ul style="list-style-type: none"> • 8 cores CPU at 2 GHz or faster • 12 GB RAM or more • SQL Server configured for “Max Server Memory” of 6144MB
Up to 10,000 Hosts / (100 support sessions)	<ul style="list-style-type: none"> • 12 cores CPU at 2 GHz or faster • 16 GB RAM or more • SQL Server configured for “Max Server Memory” of 8192MB

Server Operating System Requirements

The server components are supported on the following operating systems:

- Microsoft Windows Server 2016 (any edition)
- Microsoft Windows Server 2019 (any edition)
- Microsoft Windows Server 2022 (any edition)

NOTE: PC-Duo v13.5 Hotfix #1 now supports installing on “Windows Server Core”, also known as “Windows Server (without Desktop Experience)”. Previous releases attempted to install components that are not supported on that Server edition.

NOTE: Web Console installation is not supported on a Windows Domain Controller and should not be installed on a machine that also runs Windows Server Update Services (WSUS).

Server Database Requirements

Microsoft SQL Server 2012 or later (any edition) is supported. Note that the bundle installer will offer to install SQL Server Express on the server machine. Optionally you can point to an off-box SQL Server instance.

PC-Duo Server Installation

In version 13, the installation process of PC-Duo Server has been streamlined by allowing all components to be installed from a single bundle installer. If you intend to install components across multiple servers, it is possible to do so by using the advanced mode options of the installer.

Fresh Install vs. Upgrade

Version 13 of the PC-Duo server software does not support upgrade from earlier versions, although the non-server components (e.g. Host, Master) do have upgrade options. Upgrade from version 13 to a later release of version 13 is supported.

Account Performing the Install

The account used to perform this installation needs to be a machine administrator in order to install the software and a Domain Administrator to set the SPNs correctly. If SPNs aren't established at install time, a domain administrator can fix them later by running the CheckSPNs tool on the Gateway Server machine. This account should be designated a SQL administrator as well if you choose to install to an off-box SQL Server.

Service Accounts Specified/Created During the Install

The accounts specified during the installation process for the various PC-DUO services should be domain accounts but should not have administrative rights. These services were specifically designed to run with a minimal set of privileges and do not require administrative privileges to function properly. For security purposes, we recommend that the Console and Gateway Server accounts be separate accounts and not used for anything else.

Domain/Non-Domain and Multi-Server Install Options

We support both domain and non-domain installation of the server. Installing in a domain requires that service accounts be “Domain Users”, and components can be installed on a single machine or spread across up to 3 machines: (off-box SQL, Gateway Server, Web Console and PIM). In a non-domain installation, everything is installed on one machine and machine-local service accounts (which must be in the “Users” group) are used.

Web Console (WC) and PC-Duo Identity Manager (PIM) must be installed on the same machine. The Gateway Server (GWS) can be optionally put on a separate machine, and the SQL Server should either be a separate machine managed by your DBA, or you can use SQL Express on the same machine as WC and PIM.

NOTE: Although you can choose to point to an existing off-box SQL Instance, manual database creation of the PC-DUO database is not recommended. However, “Advanced Installation” can be run to set up the database only. Once the database is setup, log files and/or the “INDEXGROUP” file group can be moved as appropriate by your DBA.

Redistributables Needed for Installation

The provided “PCDuoServer” installation folder contains the PC-Duo installers and redistributable components that you're most likely to need. Optional components, specifically the .NET Framework 4.7.2 and SQL Server 2016 Express, are not included in the main distribution. These components are automatically downloaded if needed at installation time.

If the machine you are installing on has no, or limited, internet connectivity, or if there are any concerns about downloading the redistributable software at installation time, an additional ZIP file with these redistributables is available. The contents of that ZIP can be placed in the “PCDuoServer” folder along with the required installers. If these files are present in the folder, they will be detected (by exact file and file name) and the download will be skipped.

Installation Steps

Step	Actions
1	Begin installation by double-clicking on PCDuoServerProducts.exe
2	<p>Select “New Installation (quick mode)”</p> <p>You will have the option to choose between installing SQL Express locally on this machine or to use an existing database server. If a SQL instance named “SQLEXPRESS” already exists on the machine, the “Use existing...” option will be selected for you.</p> <p>If you select “Use existing...” you will be prompted for the instance name. You can also browse for it if you don't know what it is or it is not found by default.</p> <p>The default database name to be created is “RemoteControlGatewayDb”.</p> <p>Note that SQL Server authentication is available for the purposes of installation only. The PC-Duo services will do Windows authentication to the SQL Server as their service accounts.</p>
3	Read and accept the license agreement.

PC-Duo Server Installation Guide

4	<p>Enter the fully qualified domain name that will be used to access the PC-Duo services on this machine. The PIM requires that it be accessed by the same name (and port) both internally and externally if also exposed to the internet. That DNS name is what needs to be entered here and should match what is on the SSL certificate to be used on this server.</p> <p>The Web Console and Gateway Server can have different names and ports if desired.</p>
5	<p>Enter the ports that the PC-Duo Gateway (GWS) and the PC-Duo Web Console (WC) will be listening on. Note that it is possible to enter a 2nd port for the WC in the case that internal and external access require it (configured in IIS).</p>
6	<p>Select the SSL certificate to be used on this machine. This certificate will be selected in IIS for the WC and PIM applications, and is also selected in the GWS. You must have a certificate to select in order to proceed. If a desired certificate is not listed, you can click on the "Launch Wizard" button to generate a new certificate or to import an existing certificate. We strongly recommend that you use a trusted SSL certificate – either from a trusted 3rd party or from a domain CA.</p>
7	<p>Select how you will access the On Demand applications. A default will be chosen based on the certificate selected. If the certificate was a valid 3rd party trusted certificate, the URL will default to "Web Console Installation". If it was a self-signed certificate, the default will be to download these applications from the cloud. If you later install a 3rd party trusted certificate, you can change this setting in the WC - "On Demand Application Access".</p>
8	<p>Enter the user account information under which the WC service will run (default account is RemoteControlConsole). If this account does not already exist, you will be prompted to create it.</p>
9	<p>Enter the user account information under which the PIM service will run (default account is the same as for the WC service, RemoteControlConsole). If this account does not already exist, you will be prompted to create it.</p> <p>NOTE: A domain user account is recommended. If a local account is specified instead of a domain account, only local accounts can be imported to the Web Console's "Accounts" tab once installed. Utilizing a local service account will not be a problem if you plan to use Azure AD or will not be importing AD accounts. Also, if this is a local account, a local SQL instance must be used.</p>
10	<p>Enter the user account information under which the GWS service will run (default account is RemoteControlGateway). If this account does not already exist, you will be prompted to create it.</p> <p>NOTE: A domain user account is recommended. When using Host v10.4 or later, this is less important, as the Host <-> Gateway relationships should be the new "TLS Security" relationship. With older Hosts, or an untrusted SSL certificate, a machine local account will result in a "Shared Secret" relationship, whereas a domain account will result in "Windows Authentication" when available. Also, if a machine local account is used, a local SQL instance must be used.</p>
11	<p>Enter the server license or select the 14 day trial</p>
12	<p>Review summary action page and start the install process.</p>

SQL Server Configuration

Step	Actions
1	Open SQL Server Management Studio, click Connect on the “Connect to Server” screen.
2	Right-click the server name in the “Object Explorer” pane and click Properties
3	Highlight Memory and assign the appropriate value for the “Max Server Memory” field. These values are given in the “Server Hardware Requirements” earlier, and are generally half of the total memory of the system.

PC-Duo Server Configuration Check

PC-Duo v13 includes a new utility, Server Configuration Check, which is installed along with the Server product and is accessible on the Start menu. This utility does a basic sanity-check of the PC-Duo configuration, and can update entries in the registry and SQL database for consistency and to ensure proper operation. It's recommended to use this utility to make changes like changing the server DNS name, changing IIS port bindings, and selecting a new SSL certificate. If changes like that are made manually (e.g. adjusting IIS port bindings in IIS Manager), you must run Server Configuration Check so that related entries PC-Duo needs to function properly get updated.

PC-Duo Web Console Account Management

Each user account imported into your Web Console's **Accounts** tab will be designated as one of the following three account types: **Administrative** users, **Master** users, or **Personal** users.

NOTE: The installation process automatically imports the “**BUILTIN\Administrators**” group (machine local Administrators) as an Administrative category in the Web Console. Any member of that group can then import other users or groups.

- **Administrative Accounts** are users who are expected to have Full Control/Administration rights, including the ability to view & modify Gateway Server settings, configure access rights for all other users of the Master and Personal account types, and run usage reports. A user of an Administrative account type will see all tabs in the Web Console.
- **Master Accounts** are users who will need day-to-day access to Host desktops for remote support and remote collaboration. Users of this account type typically do not have administration rights over the Gateway Server. They may be granted a broad level of access to Hosts and Groups, but will see only the Home, Hosts and Recordings tabs.
- **Personal Accounts** are users who log into Web Console for access to a specific Host computer – usually their desktop PC at the office. Personal Accounts are ideal for work-from-home and on-the-road employees, and for guest employees who need access to one and only one Host desktop.

Accounts can be imported, modified or deleted by Administrative Account Users on the **Accounts** tab in the Web Console. Please see the “[PC-Duo Web Console Operations Guide](#)” for more information.

Documentation

Documentation is available at:

- **PC-Duo Web Console Operations Guide:** <https://pcduoresources.vector-networks.com/docs/vector/v100/wc/>
- **PC-Duo Host Guide:** <https://pcduoresources.vector-networks.com/docs/vector/v100/host/>
- **PC-Duo Master Guide:** <https://pcduoresources.vector-networks.com/docs/vector/v100/master/>
- **PC-Duo Deployment Tool Guide:** <https://pcduoresources.vector-networks.com/docs/vector/v100/pdt/>