



PC-Duo Web Console Installation Guide

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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 (eyay@cryptsoft.com), and compression software from the ZLIB project (<http://www.zlib.net/>).

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Scope of This Document

This document includes information about installing and initially configuring the PC-Duo Web Console.

For information about operating or changing configuration settings for the PC-Duo Web Console, please consult the *PC-Duo Web Console Operating Guide*.

For information about installing, configuring and operating the PC-Duo Gateway Server, please consult the *PC-Duo Gateway Administrator Guide*.

For information about installing, configuring and operating the PC-Duo Host application, please consult the *PC-Duo Host Guide*.

For information about installing, configuring and operating the standalone PC-Duo Master application, please consult the *PC-Duo Master Guide*.

For information about installing, configuring and operating the PC-Duo Deployment Tool for mass deployment and configuration of the PC-Duo applications, particularly PC-Duo Host, please consult the *PC-Duo Deployment Tool Guide*.

What's New in 12.5

Below is a table of new features and capabilities being introduced by PC-Duo version 12.5:

Feature	Description
Host On Demand (HOD)	New type of Host that can be launched from the Share My Desktop button on the Web Console landing page. Enables desktop of any internet-accessible machine to be shared instantly. No local or network administrative privileges are required, and no reboot is necessary to run this new Host type (see <i>PC-Duo Web Console Operating Guide</i>)
UAC Elevation	Master user can elevate Host on Demand process to high privilege level by providing administrator credentials to HOD remote desktop (see <i>PC-Duo Web Console Operating Guide</i>)
Host settings accessible from Web Console	Host settings for any Host connected to the Gateway Server can be viewed and/or edited by Account Users with appropriate credentials through the Web Console. No connection window to Host desktop required (see <i>PC-Duo Web Console Operating Guide</i>)
Support for LDAPS	Encryption of connections between the Gateway Server and the domain controller(s) when doing Active Directory lookups (see <i>PC-Duo Gateway Server Guide</i>)
Web Console support for Safari, Chrome and Firefox	Web Console now supports Safari, Chrome and Firefox web browsers, in addition to Internet Explorer; helper apps may be required to enable Web Desktop and other features
WebSocket transport (WS, WSS)	In addition to the UDP, TCP and SSL transports already available, the Gateway Server now supports WebSocket (binary WebSocket over HTTP) and Secure WebSocket (binary WebSocket over HTTPS) transports to facilitate connections through corporate firewalls (see <i>PC-Duo Gateway Server Guide</i>)

1. Web Console Overview

PC-Duo Web Console is a component of the On-Demand and Enterprise Editions of the PC-Duo Remote Desktop solution from Vector Networks, Inc.

Web Console is a web application that runs on Microsoft Internet Information Services (IIS) and serves as the management user interface for the Gateway Server. It can be used as a replacement for or in conjunction with the standalone Gateway Administrator application.

In Concurrent User license mode (see Gateway > Gateway Licenses sub tab for more information about licensing), the Web Console can be used to launch the Web Desktop to view/control Host desktops connected to the Gateway Server. In this way, the Web Console can be used as a replacement for or in conjunction with the standalone Master application.

The Web Console can also be used to launch the Host on Demand, a streamlined version of the Host that can enable anyone to share their desktop instantly with Account Users connected to the Gateway Server.

2. Web Console Requirements

The following sections describe requirements and prerequisites for installing and running the Web Console:

2.1 *Server Hardware Requirements*

The following section describes minimum and recommended specifications for the hardware needed to install and run the Web Console server application:

Scenario	Server Hardware Requirements	
Minimum	•	1 x 2.0 GHz dual-core CPU
	•	2 GB RAM
	•	1024 x768 display
Recommended	•	2 x 2.0 GHz dual-core CPU
	•	4+ GB RAM
	•	1024 x768 display

Recommended hardware requirements are intended to support a typical environment with 1 to 5 Administrative and/or Master Account Users, and up to 200 Host desktops. Larger environments will likely require even more powerful server hardware and/or multiple Web Console/Gateway Server installations.

2.2 Server Software Requirements

The following software must be present on the server running the Web Console.

NOTE: The items marked with an asterisk (*) can be installed easily via Microsoft's Web Platform installed; this is the recommended approach for any new installation.

2.2.1 Operating System

Web Console is supported on the following operating systems:

- Microsoft Windows Server 2012 R2
- Microsoft Windows Server 2012
- Microsoft Windows Server 2008 R2
- Microsoft Windows Server 2008

NOTE: Web Console is not supported on a server that also runs Windows Server Update Services (WSUS).

NOTE: Web Console is not supported on a server that is also a domain controller.

2.2.2 Gateway Server

Web Console requires Gateway Server v12.5.0 or later to be installed prior to installing (or upgrading to) the latest version.

2.2.3 .NET Frameworks

All of the following .NET Frameworks must be installed:

- Microsoft .NET Framework 4.0 Full Profile *
- Microsoft .NET Framework 3.5 SP1 *

2.2.4 Database

One of the following Microsoft SQL Server database products must be installed:

- Microsoft SQL Server Express 2012 *
- Microsoft SQL Server Express 2008 R2 *
- Microsoft SQL Server 2012
- Microsoft SQL Server 2008 R2

2.2.5 Web Server

Microsoft Internet Information Services (IIS) 7 must be installed, along with all of the following role services:

- ASP.NET *
- Basic Authentication *
- Windows Authentication *
- Management Console *

- HTTP Redirection *
- Static Content *

2.3 Client Software Requirements

The following software must be installed on Account Users' machines (clients) to access the Web Console (client).

2.3.1 Operating System

The following Microsoft Windows operating systems are supported for clients:

- Windows 8.1
- Windows 8
- Windows 7
- Windows Vista
- Windows XP

2.3.2 Web Browser

Web Console is a web application and is accessed by Account Users using a web browser.

The following web browser versions are supported:

- Microsoft Internet Explorer 8.x or later
- Mozilla Firefox version 18 or later
- Google Chrome version 25 or later
- Apple Safari version 5 or later

Certain features, such as Web Desktop for Account Users and Host on Demand for end users, are based on Microsoft's "ClickOnce (TM)" technology.

Support for ClickOnce is built into Microsoft Internet Explorer. Google Chrome and Mozilla Firefox require a browser extension to run ClickOnce application. Apple Safari does not offer such a plugin and so Web Desktop and Host on Demand are not supported on that browser at this time.

Account Users can click on the Browser compatibility option on the Web Console landing page or in the Web Console menu bar to see if a browser extension is needed.

3. Web Console Installation

Follow these steps to install and configure the Web Console:

3.1 Gateway Server Installation

The Gateway Server (Gateway.msi) must be present and running on the same server as the Web Console (GatewayWeb.msi).

Step	Actions
1	For either a new Gateway Server installation or an upgrade from a previous version, double-click Gateway.msi to begin the installation.
2	For a new installation, select both the “Gateway Administrator” and “Gateway Server” components. Upgrades will not prompt for this.
3	For both a new installation and an upgrade you will be prompted for license keys. For upgrades, this is an opportunity to add any additional license keys required.
4	At this point, for an upgrade only, the installation will not ask for any more information and will run to the end without prompting. You may then continue to the next section to verify prerequisite software is installed.

For a new installation, you will be prompted to enter the Gateway Server Account information. This is the user account under which the Gateway Server’s service will run.

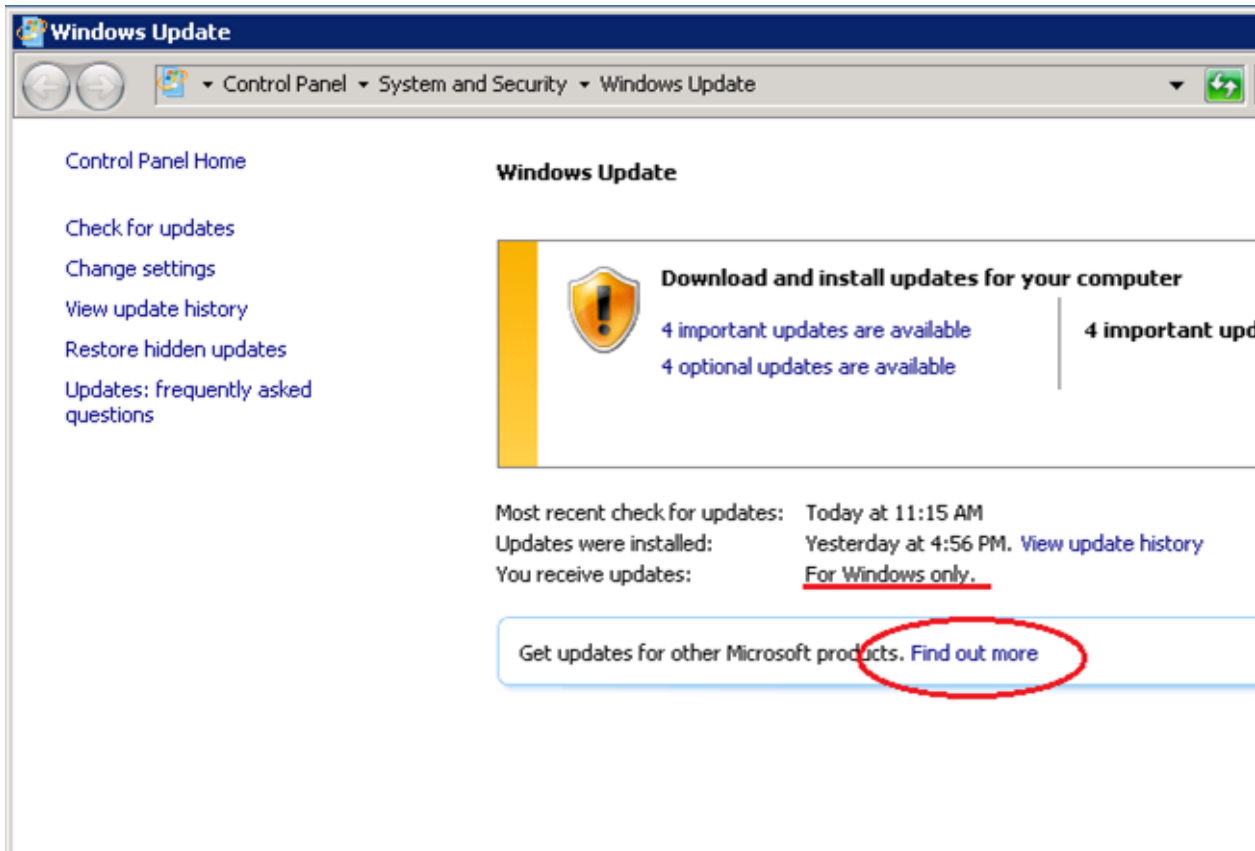
On a server joined to an Active Directory domain, the default account name will be “DOMAIN\RemoteControlGateway”. The installer will create this domain account in Active Directory for you.

On a standalone server (not joined to a domain), the default account name will be “COMPUTERNAME\RemoteControlGateway”. This account **MUST** be created manually in Windows Computer Management **BEFORE** continuing. The account does not have to be a local Administrator, but it will require the “Log on as a Service” right. After creating the account, open Administrative Tools -> Local Security Policy. Expand Local Policy, highlight User Rights Assignment, and find “Log on as a Service” on the list and add the Gateway Server Account that you just created (DOMAIN\RemoteControlGateway) to the list.

3.2 Web Console Prerequisites

Web Console requires several prerequisites to be in place before actual installation:

Step	Actions
1	Install all available Windows Updates on your Windows Server Operating System. Anything listed as "Optional" updates are not required.
2	<p>Visit the following link to download and install the Microsoft Web Platform Installer: http://www.microsoft.com/web/downloads/platform.aspx. This is essentially a package manager that allows you to conveniently download and install each of the PC-Duo Web Console's pre-requisites found in the next step.</p> <p>NOTE: Microsoft Windows Server operating systems normally ship with the "Internet Explorer Enhanced Security Configuration" feature enabled. This may prevent the downloading of the Web Platform Installer package while using a web browser directly on the server. For this reason, it might be easier to download the package from a different desktop machine and copy the package manually to the server for installation.</p>
3	<p>Launch Web Platform Installer (4.5 or later), click Products from the top-most section and then begin selecting the below components from the list of items:</p> <ul style="list-style-type: none"> • IIS: ASP.NET • IIS: Basic Authentication • IIS: Windows Authentication • IIS: Management Console • IIS: HTTP Redirection • IIS Recommended Configuration • Microsoft.NET Framework 4 • .NET Framework 3.5 SP 1 • SQL Server 2008 R2 Management Studio Express with SP1 • SQL Server Express 2008 R2 Service Pack 2
4	Click Install and agree to the licenses and list of dependencies.
5	Select Windows Integrated Authentication when prompted and click Continue (<i>This specifies the authentication used for SQL Server access</i>)
6	<p>After installation, run the following commands in an elevated command prompt. This ensures that ASP.NET v4 is properly registered with Internet Information Services (IIS)</p> <ul style="list-style-type: none"> • <code>cd "C:\WINDOWS\Microsoft.NET\Framework\v4.0.30319"</code> • <code>aspnet_regiis -i</code>
7	After all prerequisite software has been installed, run Windows Update again, and upgrade to Microsoft Update by clicking the "Find out more" button (if you have not yet already done so). The key difference is that Windows Update gathers updates for the operating system only, and Microsoft Update gathers operating system updates plus updates for any installed Microsoft products (SQL). It's critical that your server be fully patched with the latest and greatest Microsoft updates:



3.3 SQL Server Configuration

The next step is to configure the SQL database:

Step	Actions
1	Open SQL Server Management Studio and click Connect on the “Connect to Server” screen.
2	Right-click the server name in the “Object Explorer” pane and click Properties <ul style="list-style-type: none">Because the server memory must be greater than 2GB, highlight Memory and assign 1024MB for the “Max Server Memory” field.

3.4 Web Console Installation

We are now ready to install the Web Console:

Step	Actions
1	Double-click GatewayWeb.msi to install the Web Console.
2	When prompted to select a database server, leave the default values as “(local)\SQLEXPRESS” and “Windows authentication credentials of current user” and click Next to continue the installation.
3	When prompted to select a web site authentication method, select one of the following: <ul style="list-style-type: none">• Basic Authentication – Simplest and most compatible HTTP 1.0 authentication.• *Integrated Windows Authentication – Microsoft NTLM or Kerberos V5 authentication for use in environments desiring Single Sign-On capability <i>NOTE: Recommended for use in any domain environment</i>
4	Click Next and then Install to continue the installation.
5	Click Finish . Internet Explorer will automatically launch and bring you directly to the Web Console’s login prompt (<a href="https://<servername>">https://<servername>). Note that it’s normal to receive the website certificate error because the default one is not trusted. Please read the following section before attempting to log in for the first time.

3.5 Web Console Initialization

Once you reach this point in the installation process and are ready to log into your Web Console for the first time, it is suggested that you review the *PC-Duo Web Console Operations Guide* for additional information about first-time configuration.

The user account credentials (domain\username and password) you supply to log into the Web Console for the first time **must** meet one of the following criteria:

- The local user account named “Administrator”
- A domain user account that is a member of the Local Administrators group
- A local account that is a member of the local Administrators group – but only if UAC (User Account Control) is disabled

The user account credentials you provide when logging into the Web Console for the first time will automatically become an Administrative account.

NOTE: Do not attempt to log into the Web Console as the Gateway Service Account.

NOTE: If UAC is enabled, local machine accounts that are members of the Local Administrators group do not run as elevated users and therefore do not have the rights that are given to the Local Administrators group. For this reason local machine accounts should not be designated as Administrative account type when UAC is enabled.

3.6 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.

- **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.

Follow the steps below to create new accounts in the Web Console.

Step	Actions
1	From the Web Console, click Accounts and then click Import New Account .
2	Select the location where the account resides. This is either the local computer name or the name of the domain if the computer is joined to a domain.
3	Enter the account name (or part of) to import.
4	Click CheckNames to verify the account or group name entered. If more than one account name, a list will be provided to choose from.
5	Click Next .
6	Select an account type for the user and click Next . <ul style="list-style-type: none">• For an Administrative account, the account must meet the criteria specified above in the "Login" section.• For a Master account, select the Host Groups that this account will be able to access (i.e. "All Hosts"). Note that Host Groups would first need to be created, which can be done from the "Hosts" tab• For a Personal account, choose the single Host that this account will be able to access.
7	Click Save . New accounts will now appear on the Accounts page where they can be viewed or managed.

NOTE: See the "Best Practices" video listed at the end of this document for illustration of the account import process.

4. Host on Demand Activation

To enable the "Share My Desktop" button on the Web Console's landing page, first visit the landing page itself in your web browser and log in as an Administrative Account User. Follow the steps below to enable the Host on Demand feature.

Step	Actions
1	Visit the Gateway tab and then the Web Console Settings sub tab
2	Within the Application Access - Internal section, click Edit and input the LAN IP of the server, the NETBIOS server name, or a DNS name that resolves to the server (i.e server.companyname.com).
3	<p>Within the Application Access - External section, click Edit and input the public IP of your server, or a DNS name that resolves to the server (i.e. server.companyname.com).</p> <p>Best practices would be to create a DNS alias that resolves to the server both externally and internally. Then, if the server's IP address happens to change at any point later, no adjustments will be needed within PC-Duo to retain an operational state.</p>
4	<p>Within the Host on Demand section, click Edit and select configuration options below:</p> <ol style="list-style-type: none"> 1) <i>Share My Desktop</i>: Choose Enable 2) <i>Station Name</i>: Configure how you would like the Hosts to be displayed in the Host Name field of the Web Console. The default setting will result in names of the form: <p style="text-align: center;">DOMAIN\jsmith on COMPUTERNAME</p> 3) <i>Connection Permission</i>: <ul style="list-style-type: none"> • None - Connect immediately with no prompt to the Host user. • Required - Connect only with Host user approval. • Request - Allow the Host user to reject the connection if present, but still allow the connection to complete after the timeout expires and the Host user is not present. 4) <i>Connection Permission Timeout</i>: If Connection Permission is set to Required, this is the amount of time that the Connection Permission prompt appears to the Host user before automatic rejection. <p>If Connection Permission is set to Requested, this is the time given to the Host user to allow or reject the connection.</p> 5) <i>Lock workstation if permission requested but not explicitly granted</i>: If Connection Permission set to Request, always set this to No. 6) <i>Host Extension Tag</i>: Enter an optional extension tag to cause the Host to enter a non-default group other than the group "Host on Demand".

HOST ON DEMAND [X]

① Share my Desktop: ☒ Enabled ☐ Disabled

② Station Name:

③ Connection Permission: ☒ None ☐ Required ☐ Requested

④ Connection Permission Timeout:

⑤ Lock workstation if permission requested but not explicitly granted: ☐ Yes ☒ No

⑥ Host Extension Tag:

NAME (max 128 characters):

VALUE (max 1024 characters):

5. Web Console Optimization

The following are some general guidelines for optimizing the performance, security and other aspects of the Web Console and Gateway Server.

5.1 Scalability

The Gateway Server is capable of facilitating connectivity to hundreds and even thousands of remote Host machines, whether they reside inside or outside of the LAN. Note, however, that Gateway Server connections with Hosts outside the LAN (called reverse connections) use up much more resources than those within the LAN.

5.2 Security

The Gateway Server uses the Windows Security Model for authentication. This allows you to robustly define who (by either local or domain accounts) has the ability to connect to the Gateway Server, which Hosts they can access and what functional rights they have during the connection. Available with the SSL and TCP/IP protocols, the Gateway Server can be configured to only accept incoming connections from a list of IP address ranges that you define. This is a mechanism that can prevent network intrusion attempts, as each user must first be able to communicate with the Gateway Server before credentials may be passed for authentication.

5.3 Performance

If latency is a factor in your environment, this can affect remote access but fortunately there are mechanisms which allow you to hand-configure a number of variables so that the Web Console and Gateway Server delivers the optimal performance overall, suited for your particular environment. The screen capture variables that can be adjusted include the remote Host's overall image quality or color depth, the frequency in which Host desktop screen data is captured, and the amount of bandwidth that is transmitted during a connection. These screen capture settings are configured on the Host-side and can be automatically applied during the installation of the Host. Please see the *PC-Duo Host Guide* for complete details on these settings. Also see the *PC-Duo Deployment Tool Guide* to learn how to create a custom Host installation package containing these and any other Host settings.

5.4 Bandwidth Utilization

The Host can be configured to utilize a specific amount of bandwidth, ranging as low as 20KB/sec up to 199KB/sec, and by default this value is "Unlimited". To set this value, open the Host Control Panel to the "Screen" tab, click the radio button for "Prefer User Mode Screen Capture" and then click the "Configure" button. Then, select "Custom" from the profile drop-down and you will then be able to utilize the slider bar at the bottom to set a specific bandwidth value.

The Gateway Server can be configured to override the aforementioned Host-side screen capture settings for recordings only.

5.5 Storage

The Gateway Server is capable of performing screen recordings of Host machines. By default, the screen recording files will be stored locally on the server running your Gateway Server in the proprietary .PrxRec format, within the Gateway Server's installation directory. The path to which the recordings are saved can be adjusted. When you log into the Web Console through your web browser, click "Configuration" and then "Gateway Settings" and within the "Recording" section, you may specify a path of your choosing. Individual recording files may be selected for export to WMV format.