



TimeForce II Requirements

The following is a list of the system hardware/software requirements needed when running the Self Install version of TimeForce II on your local network.

Server Hardware Requirements

The following table details the minimum and recommended requirements for the machine(s) acting as the TimeForce web & database server. Note—TimeForce cannot be installed on a Domain Controller, Exchange Server, Share Point Server, or Small Business Server.

Concurrent Web Users *	Minimum Requirements			RECOMMENDED		
	Number and Type of Servers	CPU Type & Speed	Memory (RAM)	Number and Type of Servers	CPU Type & Speed	Memory (RAM)
1-50	1 Combined Web & Database Server	2GHz	1GB	1 Combined Web & Database Server	3GHz	1GB
51-200	1 Combined Web & Database Server	3GHz	1GB	1 Dedicated Web Server	P4 3GHz	2GB
				1 Dedicated Database Server	P4 3GHz	2GB
201-500	1 Dedicated Web Server	P4 2GHz	1GB	1 Dedicated Web Server	P4 3GHz	2GB
	1 Dedicated Database Server	P4 2GHz	2GB	1 Dedicated Database Server	P4 3GHz	3GB
501-1000	1 Dedicated Web Server	2x Xeon @ 3GHz ea.	2GB	2 Dedicated Web Servers **	2x Xeon @ 3GHz ea.	2GB
	1 Dedicated Database Server	2x Xeon @ 3GHz ea.	2GB	1 Dedicated Database Server	2x Xeon @ 3GHz ea.	4GB
1001-3000	2 Dedicated Web Servers **	2x Xeon @ 3GHz ea.	2GB	3 Dedicated Web Servers **	2x Xeon @ 3GHz ea.	2GB
	1 Dedicated Database Server	2x Xeon @ 3.7GHz ea.	4GB	1 Dedicated Database Server	2x Xeon @ 3GHz ea.	4GB

* Concurrent Web Users are any users who may be logged into the system simultaneously at the highest peak time. This includes any employee, supervisor, customized role self-service users, program administrators, and network time clock instances.

** Multiple web servers require the use of a hardware or software-based load balancer.

We also recommend that all servers include a DVD ROM drive, be connected to a UPS backup power supply and have internet access. Actual requirements will vary based on your system configuration and the applications and features you choose to install.

Operating System Requirements

We recommend using Windows 7 for the operating system running on the above hardware. Windows 2008 Server, Vista Business, Home Premium or Ultimate Editions (32 or 64bit) will also work. Note that Windows 8 is not yet supported. Also, TimeForce II should not be installed on a Domain Controller (DCO) server. For each of the supported operating systems, you will need to install the following additional software:

- Internet Information Services (IIS) Note: A system CD is required to install as it's not usually installed by default
- Microsoft .Net Framework (version 4.0 or higher)
- Microsoft Internet Explorer web browser (version 8 or higher) or Firefox web browser (version 3 or higher)

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TimeForce II Requirements Continued...

Database Server Software

The TimeForce system uses a MS SQL 2008 database for its data store.

- SQL 2008, or higher.
- SQL Server 2008 Express (included)
- SQL Server 2008 2 GB of RAM required. Computer must be a dedicated SQL Server 2008 machine.
- SQL 2012 is not yet supported.

Network Requirements

The TimeForce system and its hardware and utilities use various TCP/IP ports for communication. You may need to open/forward the proper ports to ensure the systems ability to communicate with your clocks, ClockLink, Live Lookup, etc.

The following is a list of port numbers and their uses in the TimeForce system.

- | | |
|------|---|
| 80 | This port is used by IIS on the default website to host TimeForce II |
| 5402 | This port is used by ClockLink and Clock Server to communicate with your time clocks. |
| 5405 | This port is used by ClockLink and Clock Server to communicate with the "TimeForce Punches Service" on the TimeForce II web server. |
| 5704 | This port is used by ClockLink to communicate with the "TFNClock-FacadeServer" service on the TimeForce II web server. |

Refer to the Time Clock specifications for cabling requirements and other network considerations.

Client Computer Requirements

A client computer accesses the TimeForce program and database via a web browser. No program or database files are installed on client machines.

Client machines should have the following minimum specifications:

- Pentium 4 1.3 GHz or faster
- 1GB of RAM
- Internet Explorer 8.0 or higher
- Internet access strongly recommended

The computer must be able to access the TimeForce II web server over your local network. Even though TimeForce is a web-based application, most web server configurations and firewall/router setups will not allow TimeForce II to be available from outside your Local Area Network.

Time Clock Punch Retrieval Options & Requirements

Refer to the list of requirements for the type of clock that you are using.

Local (Serial) Clocks

- Dedicated serial port required, or a USB to Serial Cable Kit.
- From the master time clock to the computer there is a maximum 250 feet cable length.
- There is a maximum of 4000 feet total cable length for concurrent clocks.
- The USB to Serial Cable Kit is only compatible with Windows 2000 or better.

Modem Clocks

- The time clock requires a dedicated analog phone line (digital phone lines are not compatible with the clock's analog modem).
- The desktop PC requires a 28.8kbs or faster modem.

Ethernet Clocks

- TCP/IP networks only
- The clock uses TCP port 5402.
- A static IP address is required.
- A minimum 56k LAN/WAN/Dial-up networking connection for the computer that is to download the clock data.
- The clock requires a 10MB or 100MB Ethernet connection.
- Cat 5 cable or better, with a maximum cable length of 300 feet. Cat 3 cable is not recommended and may be unreliable.

TimeForce II Hosted System Requirements

If you choose to use our hosted solution instead of installing the TimeForce II servers in-house, the following are the minimum requirements for the client computer used to access TimeForce II over the internet.

- Pentium 4 1.3 GHz or faster processor.
- Internet Explorer 8.0 or higher, or Firefox 2.0 or later.
- 56K or faster Internet connection

Other Requirements

Server Software Settings

The following steps must be performed on all operating systems:

- From the Start Menu, go to Control Panel > Administrative Tools and select "Services."
- Right-click on the "Distributed Transaction Coordinator" service and select "Properties."
- From the Startup Type drop-down menu, select "Automatic." Click on the [OK] icon.

Internet Information Services Settings

IIS settings vary slightly depending on the operating system. Follow the instructions for the operating system you are using:

Windows Vista

- From the Start Menu, go to Control Panel > Programs and Features > Internet Information Services.
- Under "World Wide Web Services" select "Application Development Features" and select the following options:
 - .NET Extensibility
 - ASP.NET
 - ISAPI Extensions
 - ISAPI Filters
 - Server-Side Includes
- Under "Common HTTP Features" select the following options:
 - Default Document
 - Static Content
- From the Windows Start Menu, go to Control Panel > System and Maintenance > Administrative Tools > Internet Information Services (IIS) Manager.
 - Expand [Server Machine Name]->Sites->Default Web Site->TimeForceII
 - The TimeForceII icon will look like a folder. Right-click on the TimeForceII icon and select 'Convert to Application' from the pop-up menu.
 - Click 'OK' on the dialog box that pops up.
 - You should now be able to open the TimeForce II site without error.
 - Click on the [OK] icon.

Windows 2008 Server

- From the Start Menu, go to "Administrative Tools" and select "Server Manager." In the Roles section and select "Add a Role".
- Select "Web Server (IIS)," and select to "Add Required Features."
- Click on the [NEXT] icon repeatedly until a screen appears asking which role services you would like to install for IIS.
- Under Application Development, select "ASP.net." Ensure that the "Add Required Features" option is selected. This will add the ISAPI extensions and filters.
- Select [NEXT] and then choose [INSTALL].