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# Setting up time synchronization of Process Historian and Information Server

SIMATIC PCS 7 V8.1

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# 1 Configuring time synchronization of a Process Historian and Information Server

## Operator Station PC Station

In PCS 7, an Operator Station with the "WinCC Time Synchronization" application has an integrated option of time synchronization. To carry out time synchronization of the PC station, you must configure the "WinCC Time Synchronization" application.

## Process Historian and Information Server

The Process Historian and Information Server do not have internal functionality for time synchronization. Time synchronization in the PCS 7 plant, including the OS Systems, has been configured and is functioning perfectly. Using the DCF77 client application, the time of the PH and the IS is synchronized with the OS server.

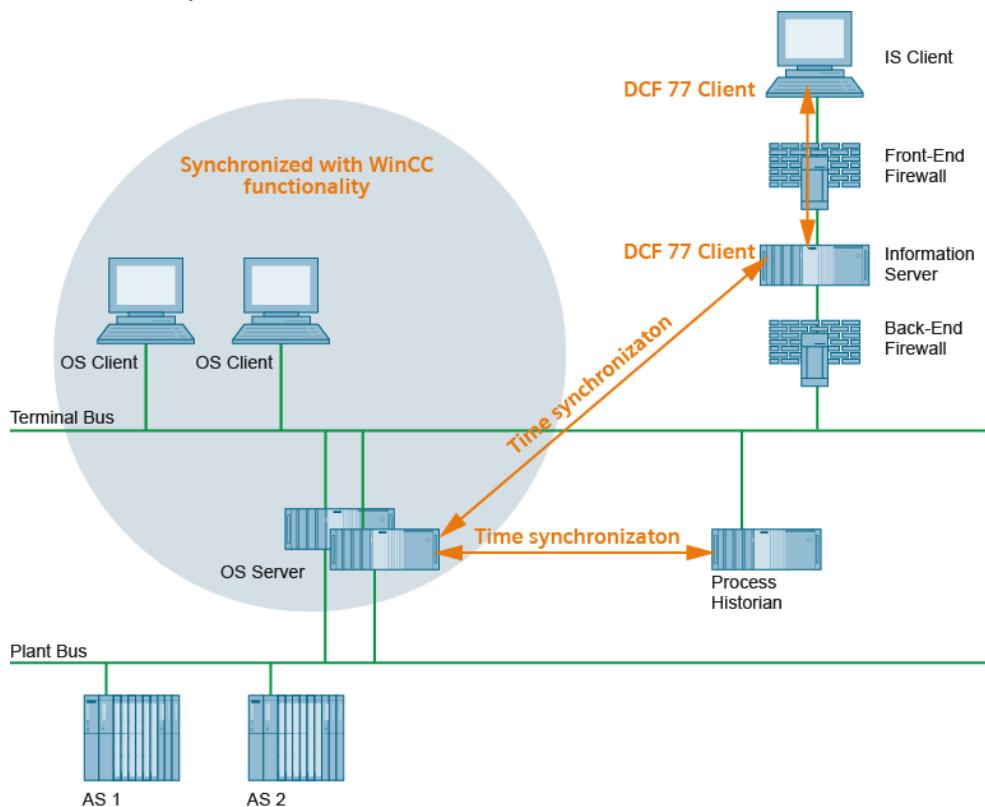
## DCF77 Client Service

You synchronize the Process Historian and Information Server system times using the DCF77 Client Service and an OS server.

You can synchronize the system time of an Information Server Client using the DCF77 Client Service and the Information Server.

## Overview

The overview below shows the PH and IS computers in the PCS 7 environment that are to be synchronized.



In this example, we will use the following computer names:

- Process Historian = PH80A
- Information Server = IS80
- OS Server = SV80A

### 1.1 DCF77 Client Software

#### 1.1.1 Availability

##### For PCS 7 V8.0

You can find the "DCF77Client\_V2.00" software on the "PCS 7 Software Support & Tools DVD 2011.01\_S79220-B3518-E000-01" DVD in the "02\_Timesynchronization\DCF77Client\_V2.00" folder.

##### For PCS 7 V8.1

You can find the "DCF77Client\_V2.00" software on the "DVD\_PCS7\_Software\_Support\_and\_Tools\_2014\_02\_S79220B5799E02" DVD in the "02\_Timesynchronization\DCF77Client\_V2.00" folder.

#### 1.1.2 Release

The DCF77Client\_V2.00 software is approved for the following operating systems::

- Windows XP Windows
- Vista
- Windows 7
- Windows Server 2003
- Windows Server 2008/2008 R2

#### NOTE

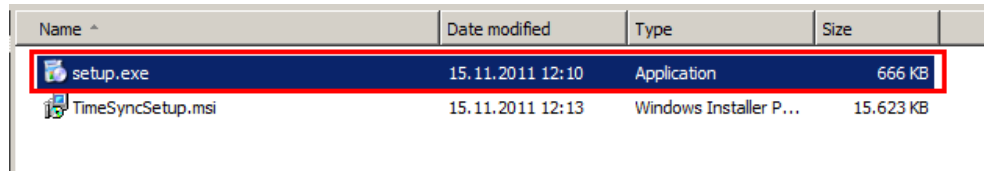
For all other operating systems the DCF77Client is not the right method for time synchronization. Alternatively the NTP function of the operating system can be used for time synchronization. Further information on the basic procedure can be found in the following document:

<https://support.industry.siemens.com/cs/ww/en/view/66579062>

"Project planning of the NTP time synchronization of a Process Historian and Information Server".

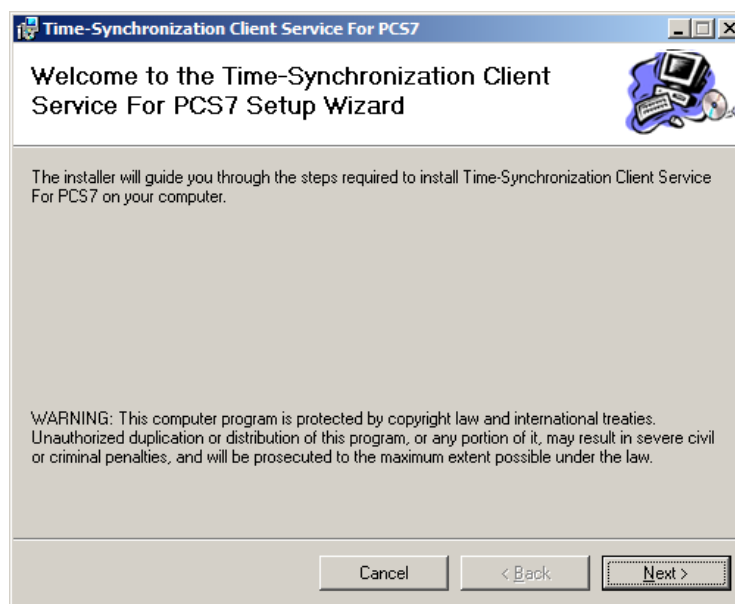
## 1.2 Installing the DCF77-Client Service

1. Double-click on "setup.exe".

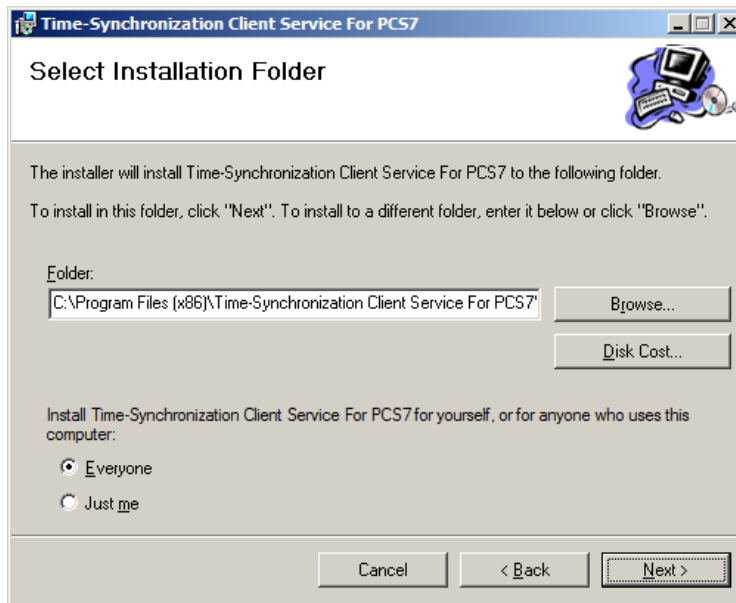


Name	Date modified	Type	Size
setup.exe	15.11.2011 12:10	Application	666 KB
TimeSyncSetup.msi	15.11.2011 12:13	Windows Installer P...	15.623 KB

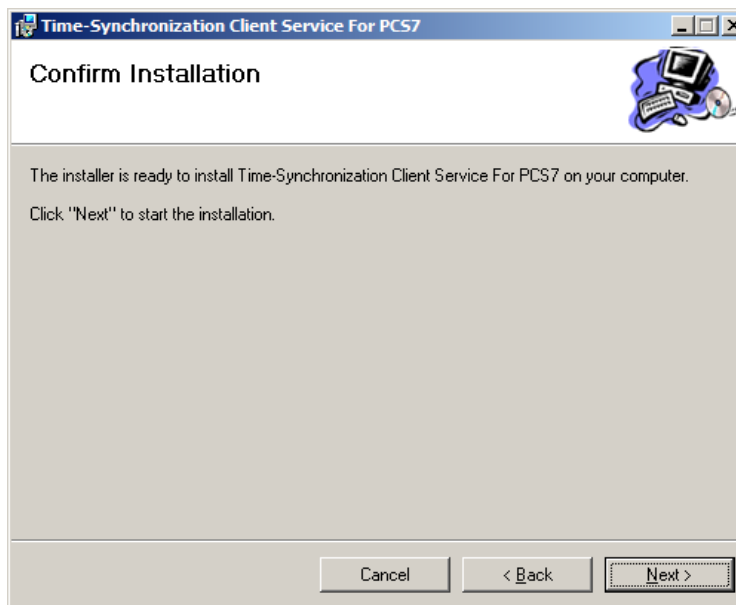
2. Click the "Next" button.



3. Choose an installation folder and select the "Everyone" option. Click on the "Next" pushbutton.



4. To install the DCF77 Client, click on the "Next" pushbutton.



5. Specify a valid user name and password. You must state the user name in a domain in the form "MyDomain\MyUser". You must state the user name in a workgroup in the form "MyComputer\MyUser".

**Note**

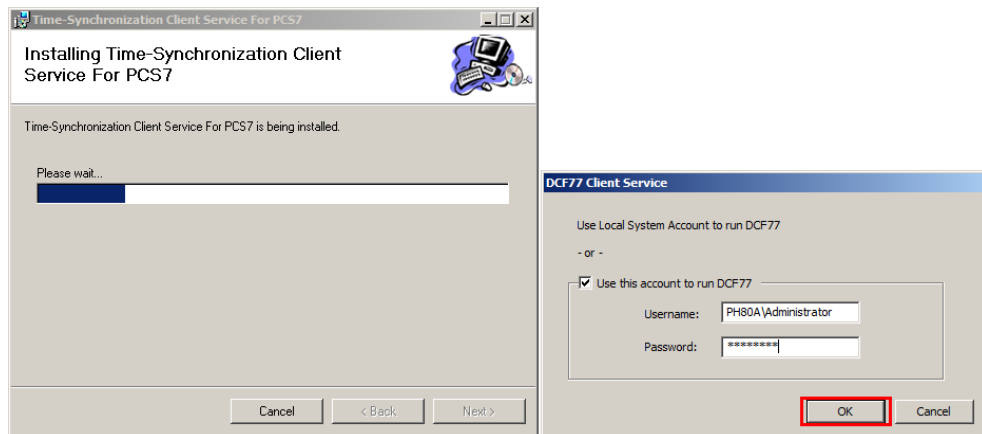
The user that you state on the DCF77 Client must belong to the "Administrators" local group. The same user must exist with the same password on the time server/OS server and also belong to "Administrators" local group.

6. Click the "OK" button.



## 1 Configuring time synchronization of a Process Historian and Information Server

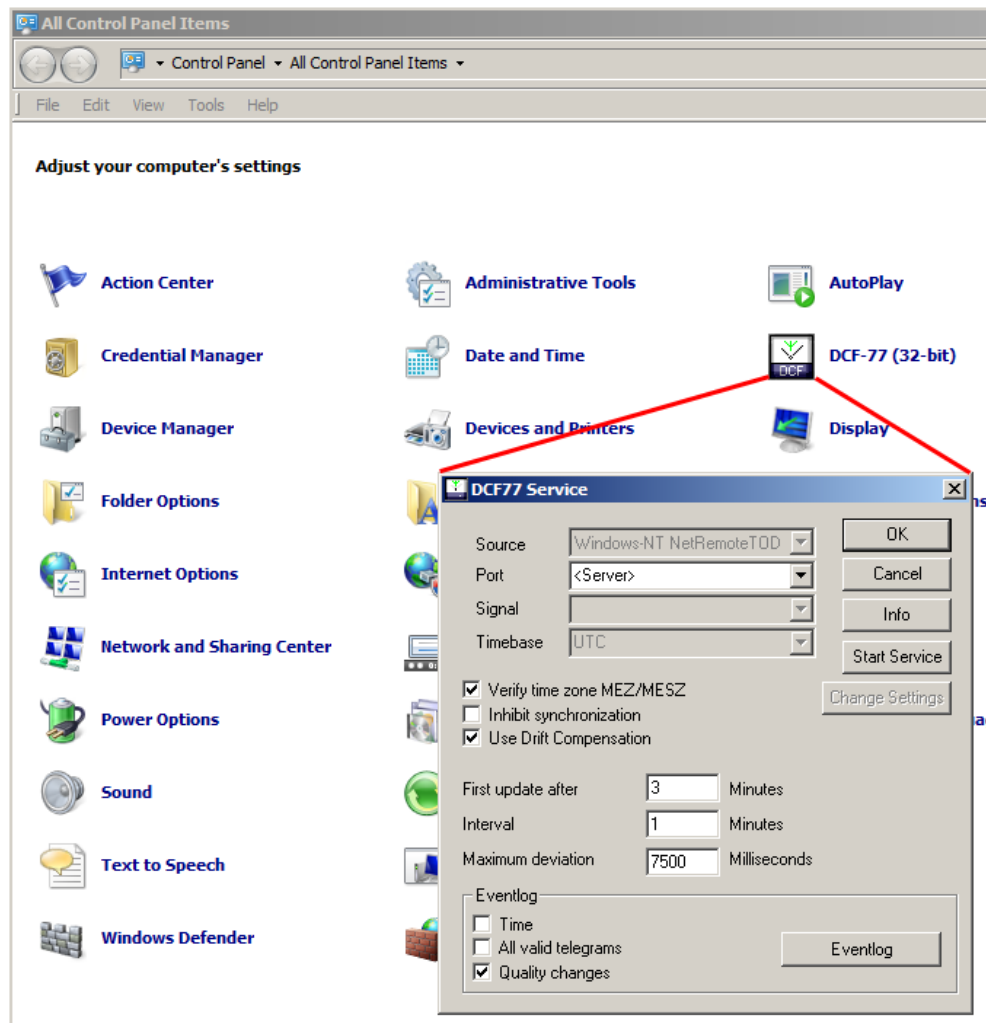
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7. Click on the "Close" pushbutton to close after carrying out installation.

## Result

The DCF77 Client Service has been installed but not been started yet.



## 2 Configuring and executing the “DCF 77 Client Service” software on a PH, IS or IS client PC

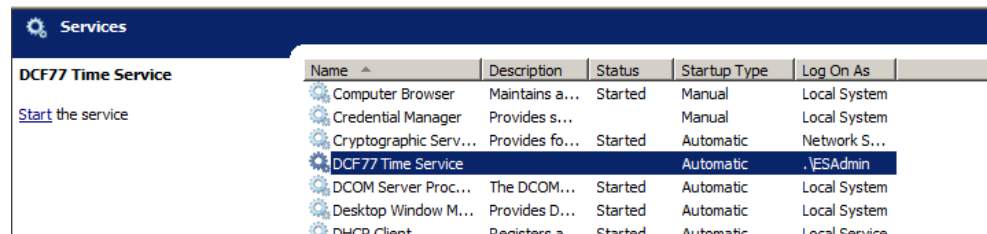
### Introduction

If an Operator Station is not in process operation on a PC station, this PC station should be synchronized using the "DCF 77-Client-Service" software that has to be installed.

The settings are made on the PH, IS and IS Client PC.

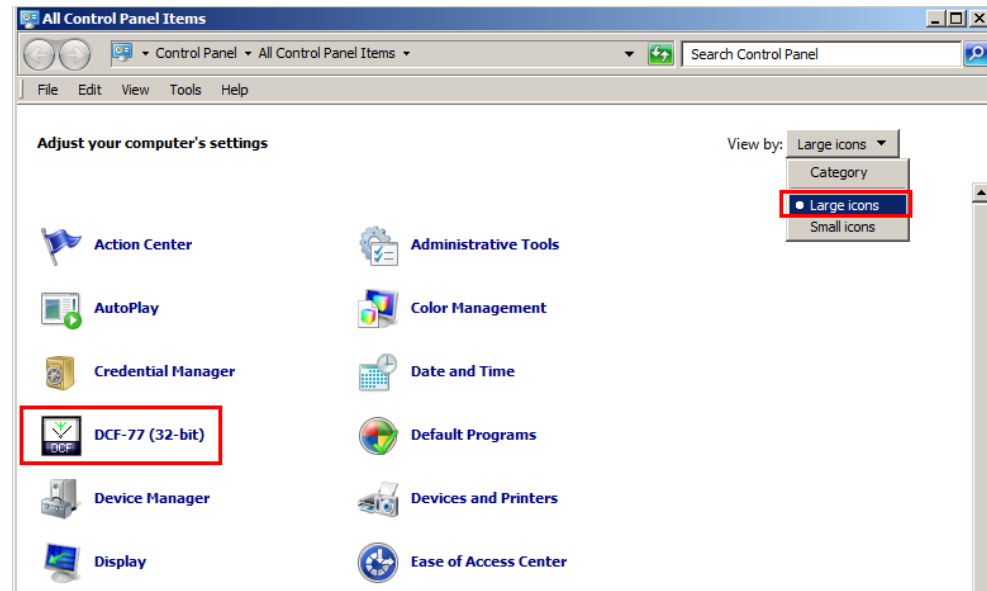
### Requirement

The DCF77 Client software has been installed that is approved for the operating system.



### Procedure

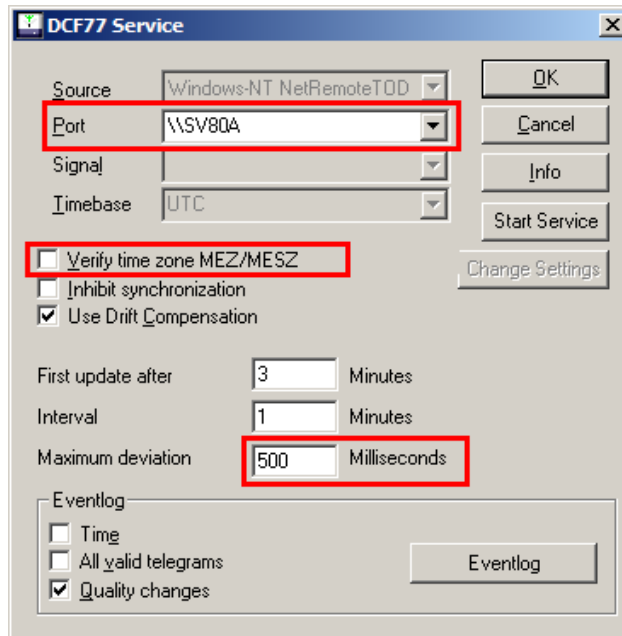
1. On the PC station, open the “Control Panel” dialog and set the “Large icons” option.



2. Double-click on the DCF-77 object. The “DCF77 Service” dialog opens.
3. Click on the “Change Settings” pushbutton.
4. Make the following settings:

## 2 Configuring and executing the “DCF 77 Client Service” software on a PH, IS or IS client PC

- In the “Port” drop-down menu, enter the PC station that is used as the time master (e.g. an OS Server in the PCS 7 environment that has been synchronized).
- Clear the “Verify time zone MEZ/MESZ” option.
- In the “Maximum deviation” input field, enter the value “500”.



5. Click on the “Start Service” pushbutton.
6. Click the "OK" button.

## 3 Checking the time synchronization

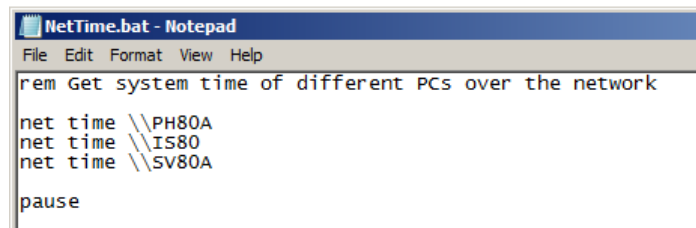
To display the time of a server on the network, issue the following command:

```
net time \\<Servername>.
```

### Checking the time synchronization of the systems

1. Create a text file and call it "NetTime.bat".
2. Copy the following code into the text file:

```
rem Get system time of different PCs over the network
net time \\PH80A
net time \\IS80
net time \\SV80A
pause
```



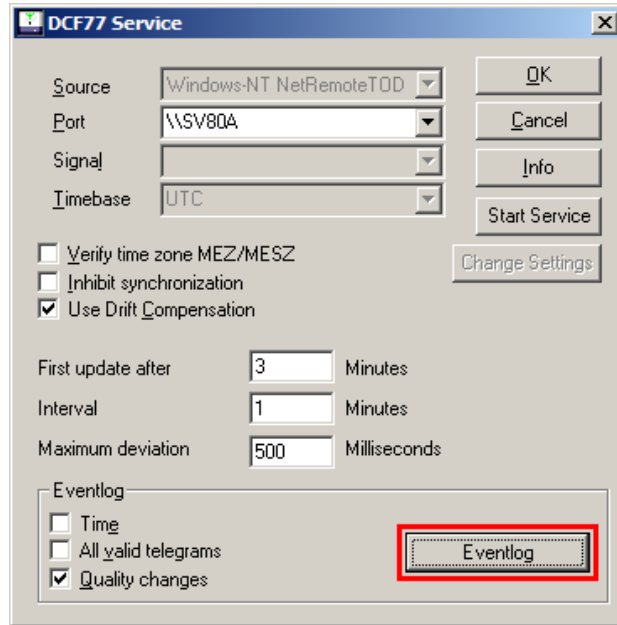
3. Save the text file and close it.
4. Double-click on the "NetTime.bat" text file.
5. Click on the "Run" pushbutton that executes the text file.

### Result

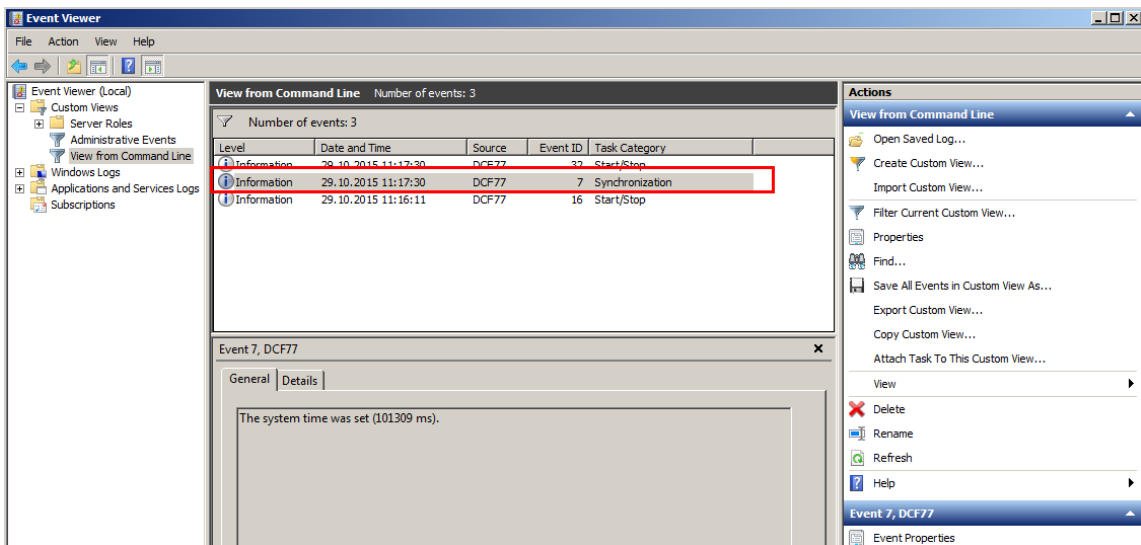
On the basis of the result, you can check whether the systems are running on a synchronized basis.

### Checking the synchronization function

1. Open the “DCF77 Service” configuration dialog.
2. Click on the “Eventlog” pushbutton.



3. Check whether synchronization is working.



## 4 Related literature

	Topic	Title / Link
\1\	Siemens Industry Online Support	<a href="http://support.industry.siemens.com">http://support.industry.siemens.com</a>
\2\	Download page of this entry	<a href="https://support.industry.siemens.com/cs/ww/en/view/66579062">https://support.industry.siemens.com/cs/ww/en/view/66579062</a>
\3\	Other documentation of this entry: <ul style="list-style-type: none"> <li>• Installing and Commissioning of Process Historian/Information Server 2014 in the PCS 7 Environment</li> <li>• Setup a new Process Historian with an existing Historian Storage Database</li> <li>• Integration of Process Historian/Information Server in a Domain</li> <li>• Configuring Access Protection for a Process Historian Database</li> <li>• Configuration of a redundant Process Historian</li> <li>• Moving a Process Historian/Information Server from Workgroup A to Workgroup B</li> <li>• PCS 7 Archive Configuration for long-term Reports with the Process Historian / Information Server 2013</li> </ul>	<a href="https://support.industry.siemens.com/cs/ww/en/view/66579062">https://support.industry.siemens.com/cs/ww/en/view/66579062</a>
\4\	Process Historian 2014: Administration	<a href="https://support.industry.siemens.com/cs/ww/en/view/103185948">https://support.industry.siemens.com/cs/ww/en/view/103185948</a>
\5\	Process Historian 2014 SP1: Administration	<a href="https://support.industry.siemens.com/cs/ww/en/view/109475338">https://support.industry.siemens.com/cs/ww/en/view/109475338</a>
\6\	Information Server 2014: Operating Instructions	<a href="https://support.industry.siemens.com/cs/ww/en/view/68099543">https://support.industry.siemens.com/cs/ww/en/view/68099543</a>
\7\	Process Historian 2014 SP1 OPC UA Information model	<a href="https://support.industry.siemens.com/cs/ww/en/view/109475340">https://support.industry.siemens.com/cs/ww/en/view/109475340</a>

## 5 History

Version	Date	Modifications
V1.0	11/2015	First version