

NTP SYNCHRONIZATION BETWEEN NOLDUS AND DSI COMPUTERS

SCOPE OF DOCUMENT

This document serves two goals:

- As a documented record of how the Media Recorder PC's are synced to the DSI PC at Boehringer Ingelheim.
- As a template for other researchers who need to sync the computer clock from either an EthoVision or a Media Recorder PC to a DSI PC.

INSTALLATION OF THE DSI PC

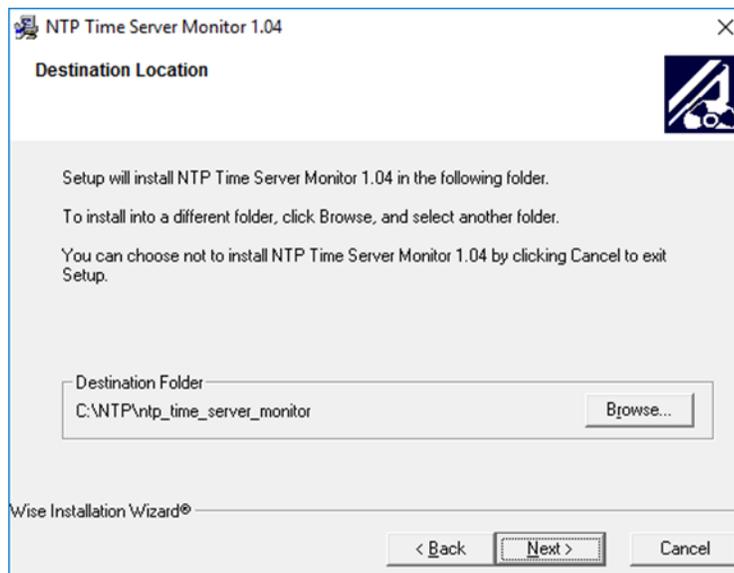
Network Time Protocol (NTP):

The DSI Ponemah software will install the NTP server on the PC. NTP should be running from this installation. The running state of NTP may be verified in the Computer Manager | Services and Applications | Services.

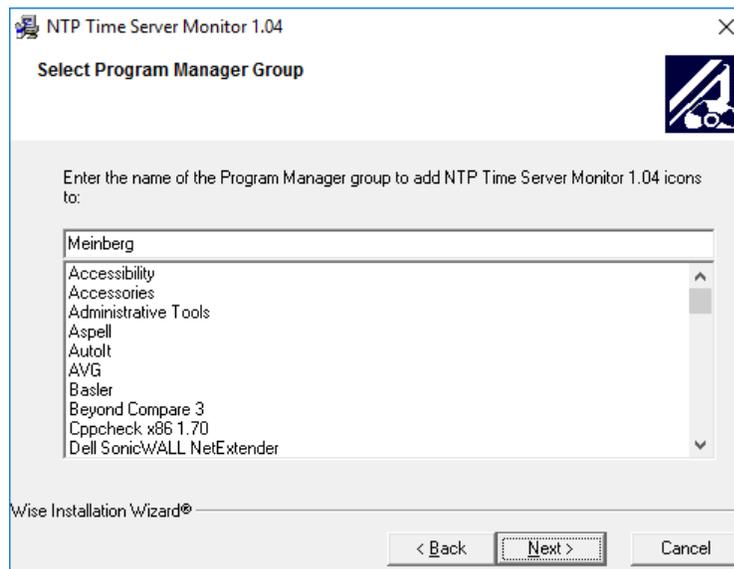
To monitor the time server performance, the NTP Time Server Monitor application may be installed on the DSI PC.

NTP Time Server Monitor:

1. Create the following Folder structure:
 - C:\NTP\ETC\
• C:\NTP\Installation\
• C:\NTP\Installation\ntp-time-server-monitor-104.exe
The exe-file can be found in the same folder as this manual document.



2. Run the installer **ntp-time-server-monitor-104.exe**
 - a. In the installation choose the "C:\NTP" folder as the monitor destination:
 - b. Next keep **Meinberg** selected as *Program manager Group*. Click **Next**.

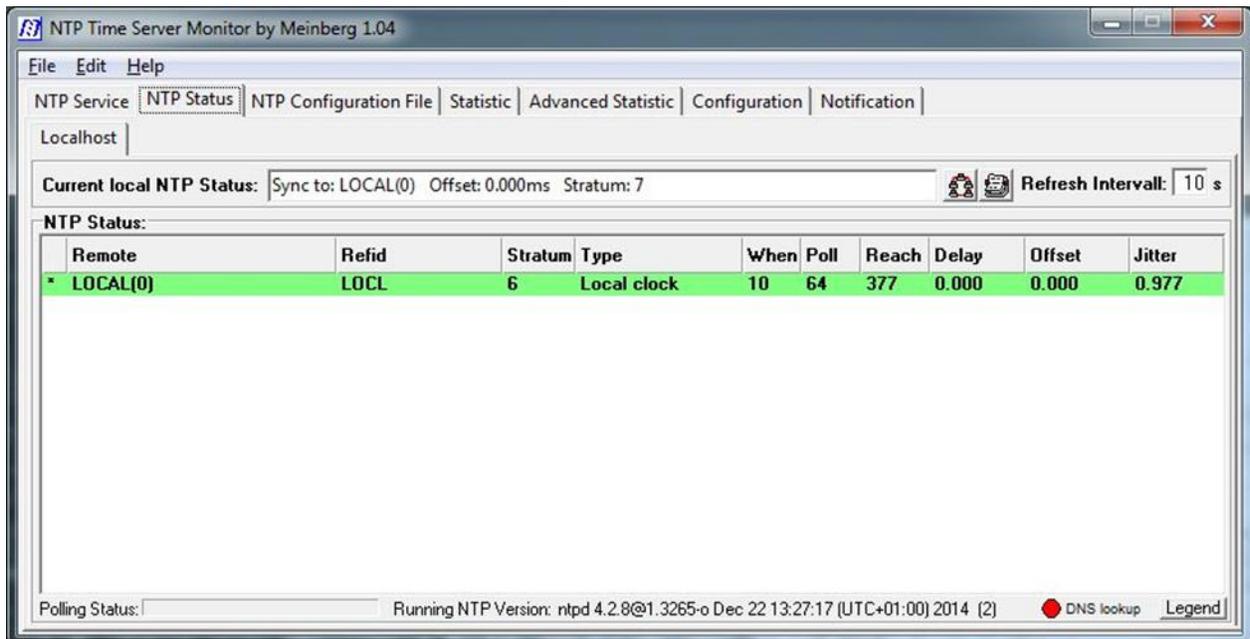


- c. Continue the installation and let the installer finish.

- The installation will install the NTP Time Server Monitor application and add this icon to the desktop:



- Open the Monitor by right-clicking on it and choosing **Run as administrator**.
 - Select the **Status** tab. You should see that the line is green indicating that the service is running correctly.



RETRIEVING THE IP ADDRESS

Now we need to know the IP address in order to connect the NTP clients to the server.

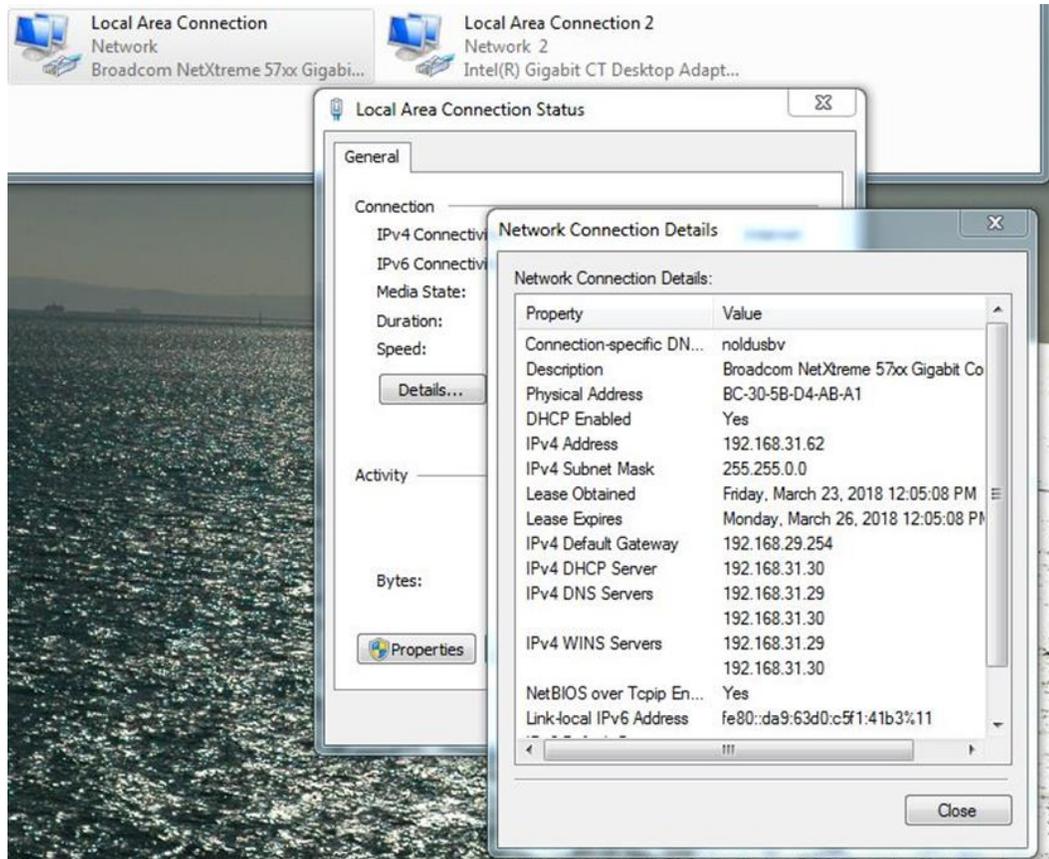
Note: The DSI PC has 2 network interface cards of which one is connected to the Matrix 2.0 (MX2) and the other one should be connected to the network which connects the DSI-PC to the Noldus Client PC (Running EthoVision or Media Recorder).

- Open the **Network and sharing center**.
- Select to **Change adapter settings**.
- Select the appropriate network card and right-click on the network card and choose **Status**.

Note: To determine which card is the correct one, temporarily disconnect the network cable. You should see an update displayed in the dialog and will help you to distinguish the network

card that you need.

4. In the *Status* dialog choose **Details**.



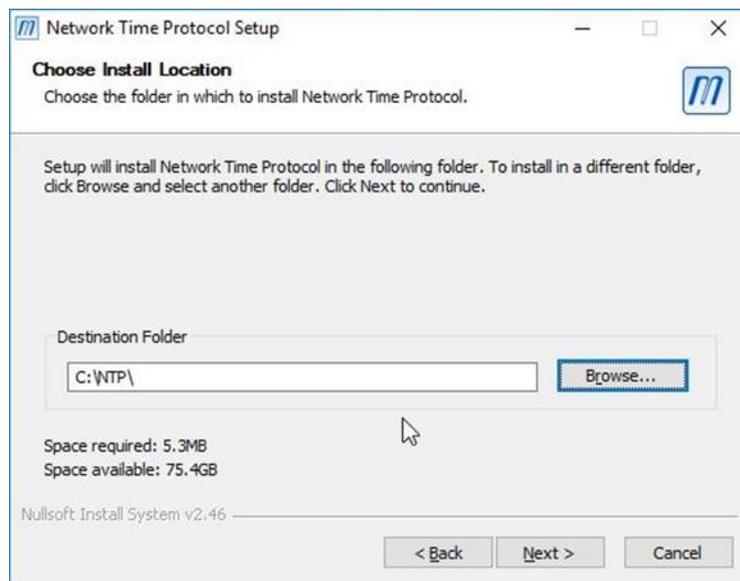
5. Note the **IPv4 Address** e.g. 192.168.31.62

INSTALLATION ON THE NOLDUS CLIENT PC

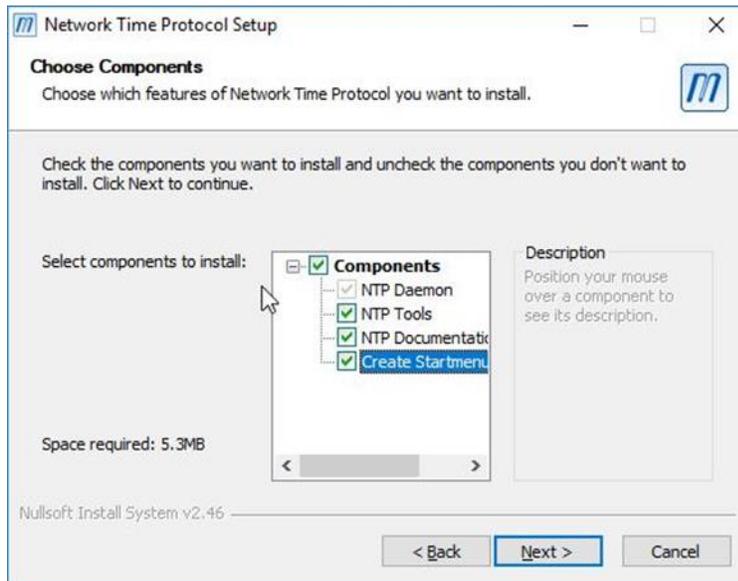
The client installation will adjust the client clock in such a way that it will be in sync with the clock of the NTP server. Install the NTP client on the PC's that are recording with EthoVision or Media-recorder. This will ensure that the system time of these computers are in sync with the system time of the DSI computer.

Do the installation as followed:

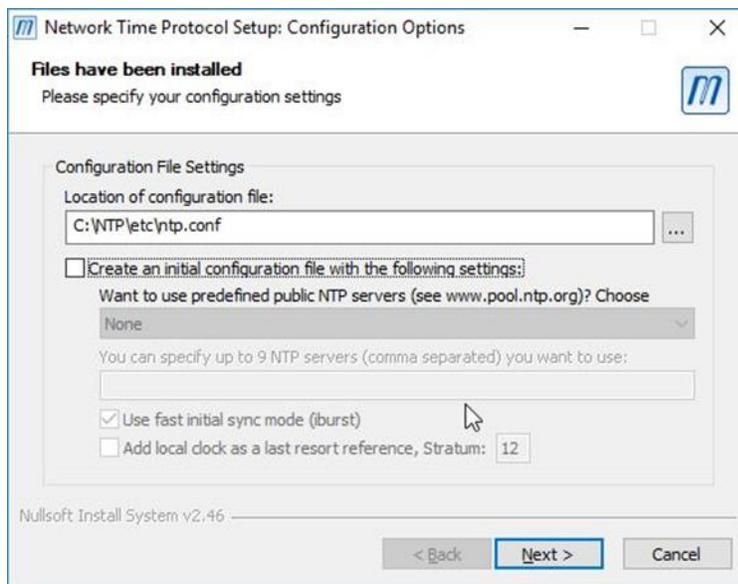
1. First create the following Folder structure:
 - C:\NTP\
 - C:\NTP\ETC\
 - C:\NTP\ETC\ntp.conf
 - C:\NTP\Installation\
 - C:\NTP\Installation\ntp-4.2.8-win32-setup.exe
 - C:\NTP\Installation\ntp-time-server-monitor-104.exe
2. Run the client installer ntp-4.2.8-win32-setup.exe
 - a. Choose C:\NTP\ as the target location.



- b. Keep these default installation settings. Click **Next**.

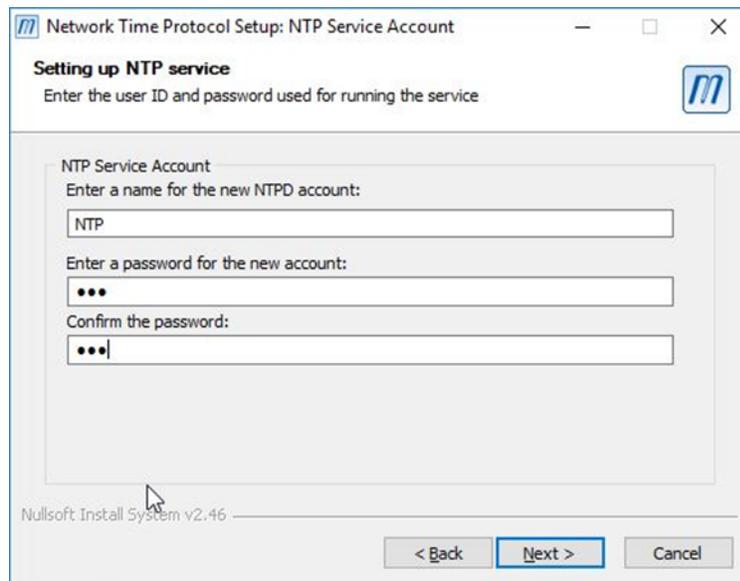
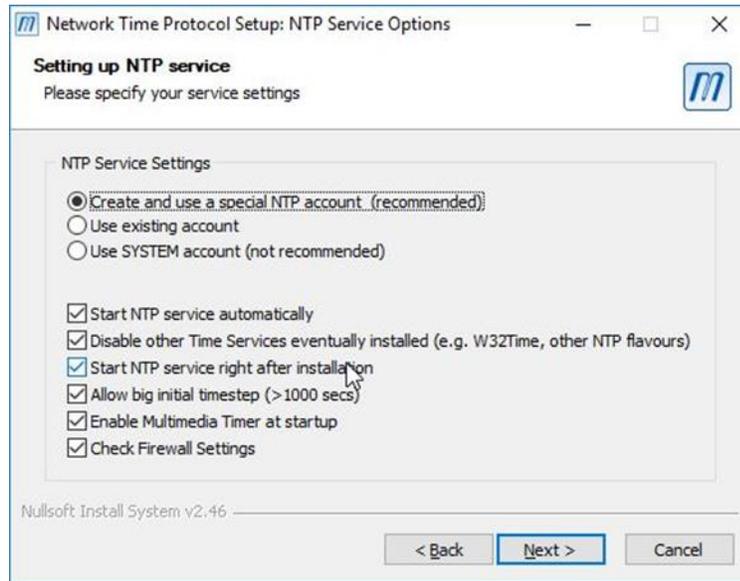


- c. By default, the installer will ask for a C:\NTP\etc\ntp.conf file. Leave this as is since the file that you already copied into the folder C:\NTP\ETC\ should already have the correct content (except for the IP address). Click **Next**.

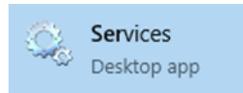


- d. Create a special account for the NTP service.

Note: Do not use the localAdmin account for this. If the localAdmin account is used, the NTP service will require a manual start and will not be able to be automatically started from the Monitor.



- e. After this, the Service is installed and started automatically.
- f. If the service does not start after the installation, because of using an existing account, do the following:
 - i. Navigate to **Computer Management | Services and Applications | Services**.



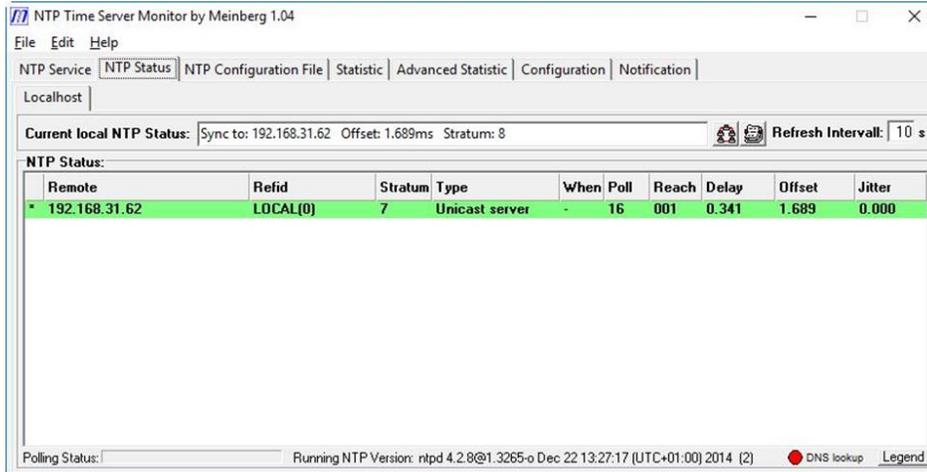
- ii. Select the *Network Time Protocol Daemon* service.
 - iii. Change the **Logon Properties** to the desired account.
(If you do this the account will be granted services rights).
 - iv. **Start** the Service.
3. Run the installer **ntp-time-server-monitor-104.exe**.
All the details can be found in the DSI PC installation on page **Error! Bookmark not defined.** onwards.
 4. Once installed, start the **NTP Time Server Monitor** by right-clicking and selecting **Run as administrator**.
 5. Navigate to the tab **NTP Configuration File**.
 6. Change the IP address in the configuration file to the one obtained in section 2.1 step 5.



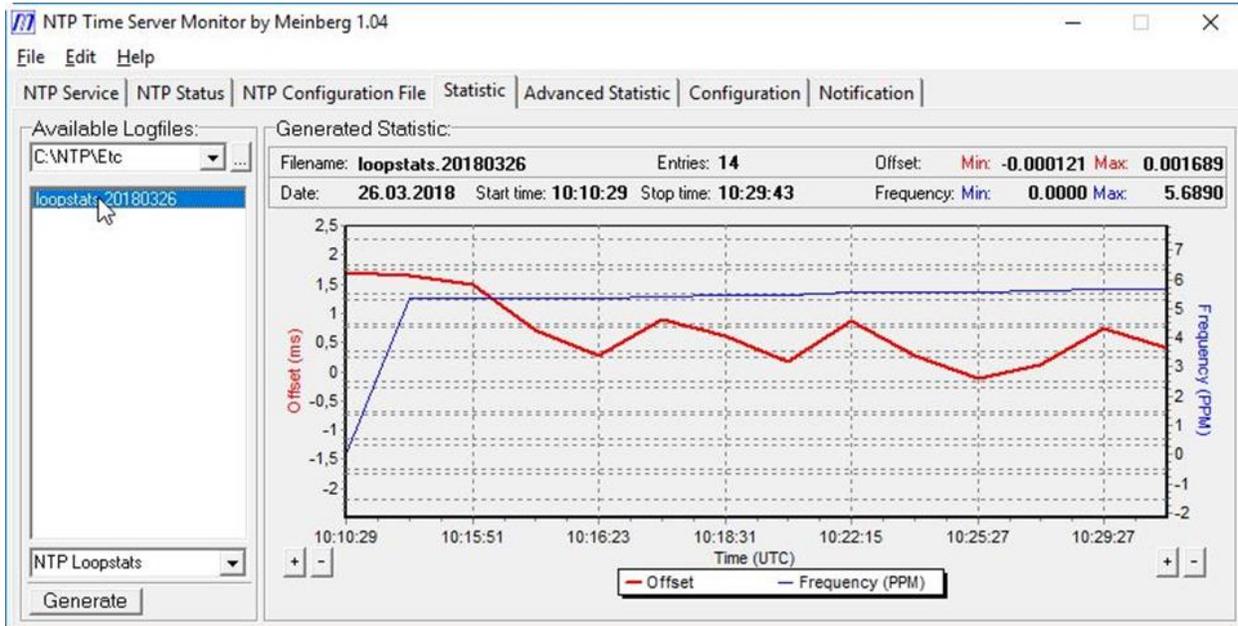
7. After the changes have been made, click on **Save configuration**. At this point you will be asked to restart the service.

Note: The Save configuration will fail if you did not start the Monitor as administrator. You can always restart the service in the Services.

8. Switch to the **NTP Status** tab. You should see the green line indicating that the service is running correctly.



9. After a few minutes you will be able to see the statistics of the NTP synchronization. To do this:
 - a. Select the **Statistics** tab in the Monitor.
 - b. Browse to the **Log File Folder: C:\NTP\Etc**
 - c. You will see a list of all the created loop statistics. Typically, one file is generated per day.
 - d. Click on the file to see the offset between the server and client time in red in the graphic.



CONTENT NTP.CONF FILE

```
# NTP Network Time Protocol

#IMPORTANT: WITH W7 MAKE SURE THE MONITOR RUNS AS ADMIN

# SET THIS IN THE PROPERTIES OF THE SHORTCUT

ignore_bigimestep yes

# Use drift file

driftfile "C:\NTP\etc\ntp.drift"
```

The ntp.conf file is a normal text file. The text file should have the following content:

Please note the IP address should be the IP address of the NTP server, (the DSI-computer).