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**PowerDiff**

## **Setup and Installation Guide**

**PowerDiff Version 14.1**

Issue 14.1



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## 1 OVERVIEW

This document describes how to install and register the PowerDiff tool.

PowerDiff is a diff tool for IBM® Rational® StateMate®. StateMate® is a system specification tool that uses graphical elements and charts to model complex systems using the structured analysis. PowerDiff automatically analyses the logical and textual differences between a set of StateMate® chart version pairs. In addition to the visualisation of the differences, PowerDiff can generate a report describing the differences.

For installation and licencing of PowerDiff please proceed with the following steps:

- **Install PowerDiff**
- **Licencing and registration**
- **Starting PowerDiff for the first time**

## 2 INSTALLATION OF POWERDIFF

### 2.1 System Requirements

To execute PowerDiff the following system parameters are required:

- 2.6 GHz (x64) processor or compatible
- At least 4 GB main memory

### 2.2 Installation Requirements

As a precondition make sure that no PowerDiff version is installed on the target system.

PowerDiff can be installed on Windows® 10 (64 Bit). Other operating systems are not supported. In order to install PowerDiff you need administrator privileges on the target computer.

Additionally PowerDiff needs some software to be installed, that is not delivered with the setup. The following list shows those software packages and where they can be downloaded from:

- Microsoft® .NET framework runtime version 3.5 sp1,  
<https://dotnet.microsoft.com/download/dotnet-framework/net35-sp1>
- Microsoft® .NET framework runtime (at least version 4.6.1),  
<https://dotnet.microsoft.com/download/dotnet-framework/net461>

For viewing the online documentation (e. g. this document) and the reports generated by PowerDiff a PDF viewer (at least version 7.0.5) is required. For viewing PDF files a free version of Adobe® Reader is available at: <https://get.adobe.com/de/reader/>.

## 2.3 Installation Instructions

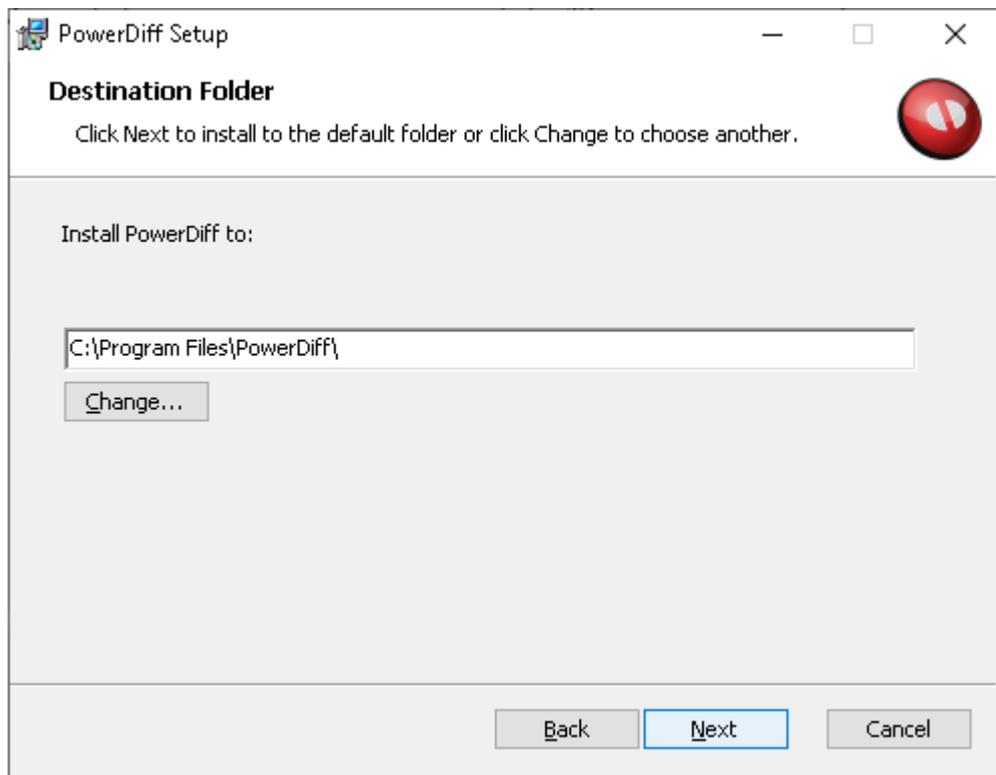
After the required software (refer to chapter 2.2) has been installed on the system, the PowerDiff setup wizard can be started by clicking the “Install” button in the context menu of the InstallPowerDiff.msi file.

Please follow the instructions of the wizard. The Welcome screen is shown in Figure 1.



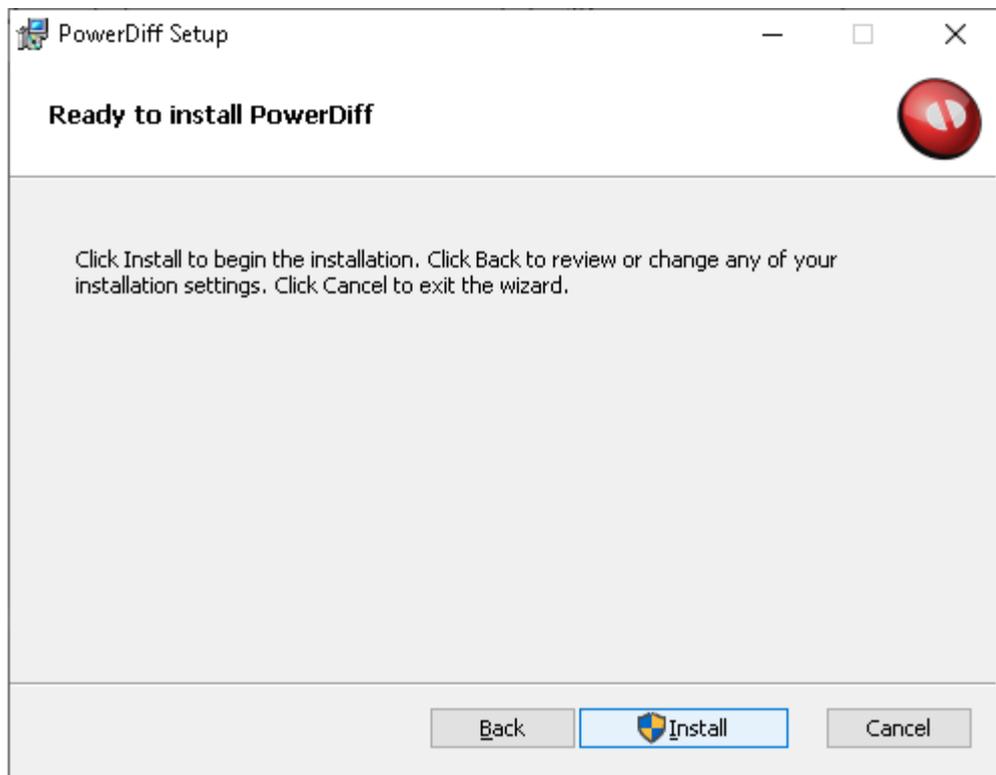
**Figure 1: PowerDiff setup wizard – Welcome**

Click button “Next” to switch to the Destination Folder screen where the installation directory can be specified. As default “C:\Program Files\” (%ProgramFiles%) is set. This dialogue is shown in Figure 2.



**Figure 2: PowerDiff setup wizard – Destination Folder**

When the desired directory is set click button “Next” to switch to the Ready screen shown in Figure 3.

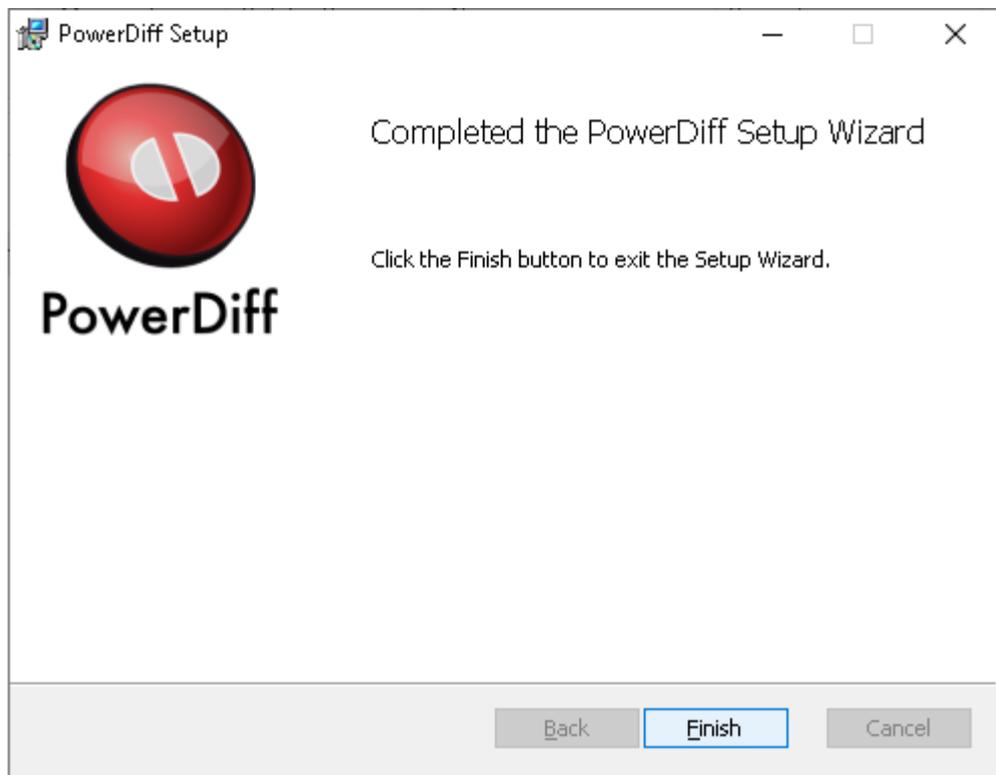


**Figure 3: PowerDiff setup wizard – Ready**

To start the installation please click button “Install”.

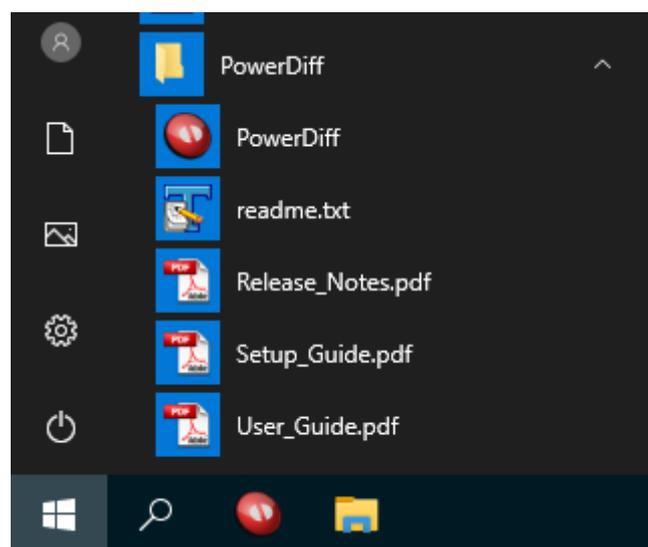
When installation has been performed successfully the Completed screen is displayed as shown in Figure 4.

When button “Finish” is clicked the PowerDiff setup wizard is ended and file “readme.txt” is opened in a text editor.



**Figure 4: PowerDiff setup wizard – Completed**

The PowerDiff setup wizard creates a short cut on desktop and a folder in the Windows Start Menu as shown in Figure 5.



**Figure 5: PowerDiff entries in Windows Start Menu**



## 2.4 How to uninstall or update

If any version of PowerDiff is present on the target system it has to be removed before the installation of a new version can be performed.

To uninstall an existing PowerDiff installation, start the system application “Add or Remove Programs” e.g. via Start Menu. Select PowerDiff in the list “Apps & features” and click button “Uninstall”. After PowerDiff has been removed completely a newer version may be installed.

To install the new version of PowerDiff please perform the steps as described in section 2.3.

### 3 POWERDIFF LICENCE MECHANISM

Since version 6.1, PowerDiff uses the FLEXlm™ licence mechanism. This mechanism allows two types of licences:

- Floating licences: A licence server runs on a computer in the network. PowerDiff can run on any other computer in the network and get the licence information of this particular server. The number of licences is limited, so only a limited number of PowerDiff applications can run at the same time.
- Node locked licences: The licence usage is limited to one computer. No other computer in the network can use this licence. No server is required.

How to run a licence server for the use of floating licences is described in section 3.2.

The licence information is always stored in a licence file. In case of a node locked licence the PowerDiff application has to be configured with the path to the licence file. In case of floating licences the PowerDiff application has to be configured with the address of the licence server. The licence server itself has to be configured with the path to the licence file (please refer to section 3.2 “Running a licence server”). For licence configuration of the PowerDiff application please refer to section 4 “Starting PowerDiff for the First Time”.

#### 3.1 Licencing and Registration of PowerDiff

To run PowerDiff a valid licence is required. This licence is provided by a licence file. In order to get a valid licence file you need to register at Expleo Germany GmbH (see below). Because of the hardware binding of the licence file, it is required to provide a file with hardware information for the registration. To get this hardware information the following files that are delivered with the PowerDiff tool have to be executed.

- lmchostid.exe
- lmhostinfo.cmd

In case of floating licences these files have to be saved on the computer that is dedicated to be the licence server.

In case of a node locked licence these files have to be saved on the computer on which PowerDiff is dedicated to run.

After saving these files file lmhostinfo.cmd, has to be executed which generates a file named “<COMPUTERNAME>.info”, where <COMPUTERNAME> is the name of the computer for which the licence shall be registered. < COMPUTERNAME> can be determined by evaluating the value of the Windows system variable “COMPUTERNAME” (e.g. %COMPUTERNAME%).

For registering and licencing PowerDiff, use the Appendix A: “PowerDiff Registration Form” or the file “PowerDiff\_Registration.txt”. Copy the text to an E-Mail, fill in the required information, attach the file generated by lmhostinfo.cmd and send it to [Support\\_PowerDiff@expleogroup.com](mailto:Support_PowerDiff@expleogroup.com).

In the Licence Information section, just use the rows you need. Each row represents a single licence file. So you need a licence file for each node locked licence, whereas several floating licences can be contained in one licence file. If you want a licence for a triad system, you have to enter the ports and server names for each server. Please note that you require the file generated by `lmhostinfo.cmd` for each Desktop/Server name separately.

### 3.2 Running a licence server (for floating licences)

For use of a licence server, the following files are needed:

- `lmgrd.exe`
- `BMSIND.exe`
- Licence file (e.g. `licenceFile.lic`)

These files have to be saved in a directory of the server and the following command has to be executed on the command-shell:

```
lmgrd.exe -c licenceFile.lic
```

After that the licence server will start and can be used.

### 3.3 FLEXlm™ tools

You are able to take advantage of the features which are provided by the FLEXlm™ Licence Mechanism of Flexera Software. The supported tools can be downloaded with the PowerDiff software.

#### 3.3.1 Borrowing a licence from the licence server

The FLEXlm™ licence mechanism supports borrowing. The following steps illustrate the borrowing of a licence.

**Note:** Our licences have a restricted borrow time of one week. This means that they are returned to the licence pool at the latest after this time interval.

1. First download the FLEXlm™ tools for your operating system (`LicenceTools_*`) from the PowerDiff download.
2. Create an empty directory for the FLEXlm™ tools (e.g. `"C:\FLEXtools"`) and copy the file `"lmtools.exe"` from the downloaded zip-archive into the newly created directory.
3. Create a new file `"borrow.cmd"` and open it with an editor of choice. Using the editor, copy the following lines into the file:

```
set LM_LICENSE_FILE=<FLEXLM SERVER PATH>

lmtools.exe
```

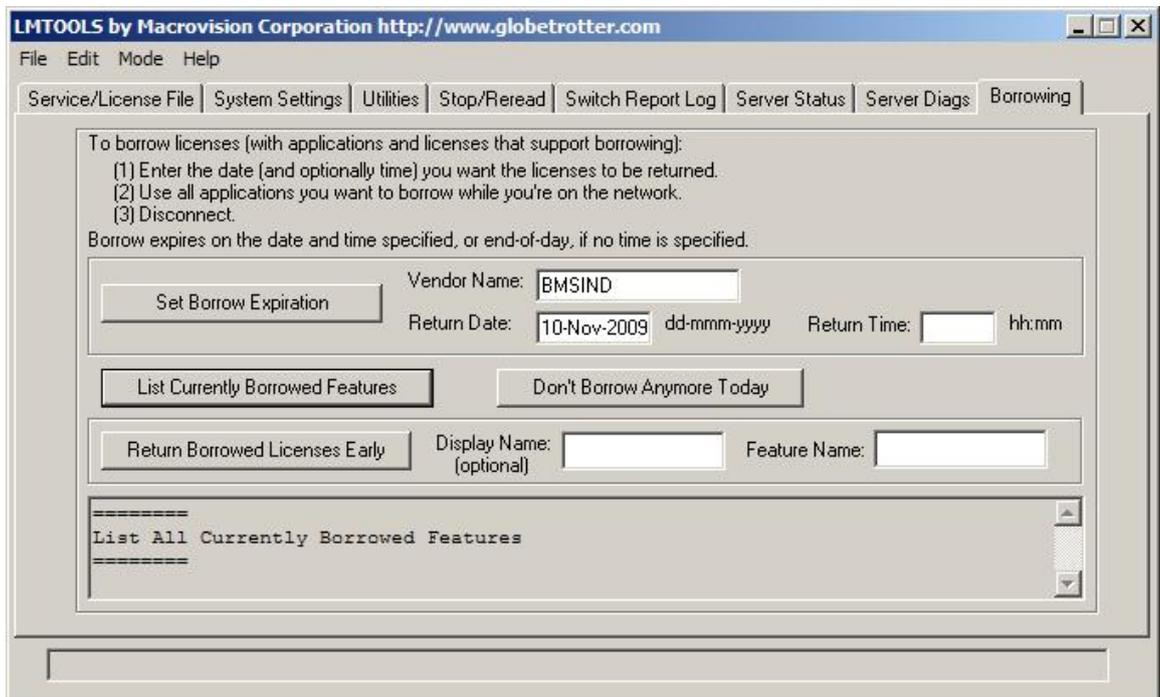
4. Substitute the string <FLEXLM SERVER PATH> with the licence server information displayed at the start of PowerDiff. (in Figure 8: 2837@server)
5. A double click on “borrow.cmd” opens the application “lmtools.exe” with the correct path to the licence server.
6. Open the tab “Service/License File” and ensure that the option “Configuration using License File” is activated. The textbox below should contain the entry BMSIND\_LICENSE\_FILE. Figure 6 shows the correct settings.



**Figure 6: Tab Service/License File of lmtools.exe**

7. Open the tab “Borrowing” and enter the vendor name “BMSIND” in the appropriate text field. Also enter a return date (e.g. “10-Nov-2009”). The return time is optional. This setup is displayed in Figure 7.

**Note:** The return date must be at maximum one week from the current date to allow for borrowing the licence. A return date that would borrow the licence for a longer time period leads to the unavailability of PowerDiff. This can be undone by a renewed borrowing for an allowed period of time.



**Figure 7: Tab Borrowing of ImTools.exe**

8. Press the button “Set Borrow Expiration” to activate the borrowing of licences for all products by the vendor “BMSIND” until 11/10/2009.

**Note:** Borrowing a licence file for a different period of time, when the licence is still borrowed requires a return of the currently borrowed licence (see Step 12) before the licence can be borrowed until the new return date.

9. Start PowerDiff in batch mode in the command prompt window (e.g. by “powerdiff abc.pcl”). The pcl-file is not required to exist in order to borrow the licences.
10. Assert that that the licences have been borrowed by pressing the button “List Currently Borrowed Features” in the tab “Borrowing” of the application “lmstools.exe”. The frame at the bottom should provide an output similar to the following lines.

```

=====
List All Currently Borrowed Features
=====
Vendor          Feature          Expiration
-----
BMSIND          PowerDiffConvert 10-Nov-09 23:59
BMSIND          PowerDiffReport  10-Nov-09 23:59
BMSIND          PowerDiffClassification 10-Nov-09 23:59
    
```

11. Clicking the button “Don’t Borrow Anymore Today” deactivates the borrowing of additional licences, but does not return any already borrowed licences.

12. Borrowed licences can be returned by entering the name of a listed feature (in the example: “PowerDiffConvert”, “PowerDiffReport” and “PowerDiffClassification”) in the text field “Feature Name” and then pressing “Return Borrowed Licences Early”. Returning all borrowed licences requires returning all feature names one after another.

### 3.3.2 Working offline with a borrowed licence

In addition to the steps listed for borrowing a licence file from the licence server, working offline with a borrowed licence requires additional changes to locally store the mapping from server name to IP-address. The following enumeration lists the required steps that have to be executed once.

1. Open a console and type the command “nslookup <LICENCE SERVER NAME>” (in the example from chapter 3.3.1: server). This should yield an output similar to the following lines.

```
Server: xxxx.yyyy.zzzz  
Address: 10.18.22.33
```

```
Name: <LICENCE SERVER NAME>  
Address: 10.18.33.44
```

2. Open the file “C:\WINDOWS\system32\drivers\etc\hosts”. You’ll see assignments of IP-addresses to computer names, which exist locally on the computer.
3. Copy the last entry twice and enter the IP-number that has been returned by nslookup in step 1 (the address of the second block) into both new lines. Replace the name in one of the two lines with the short name of the licence server (i.e. <LICENCE SERVER NAME>) and the other with the full name (including the appropriate domain).
4. Remove the network cable after saving the changes and start a new console. Enter “ping <LICENCE SERVER NAME>” to see, whether the computer acknowledges the server name (no data should be transferred).

## 4 STARTING POWERDIFF FOR THE FIRST TIME

### 4.1 Start for the first time without registry licence entries

When starting PowerDiff for the first time, a licence dialog appears (see Figure 8) and you are requested to specify a licence server or a licence file. Select a valid licence server by entering the server name with port number and with a “@” between port number and server name (e.g. 2837@server), or select a file by clicking the button on the right side of the Licence File entry. Dependent on what licence type you want to choose you have to choose the right radio button selection on the left side of the Licence Server/File entry (see also Figure 9). The licence the user set here will only be used for the current user. It is possible to set the licence for all users, see chapter 4.2.

Instead of a single server you can also enter a licence server triad. In this case you have to enter the ports and server names of the three servers, separated by a comma (e.g. “2937@server1, 2937@server2, 2937@server3”).

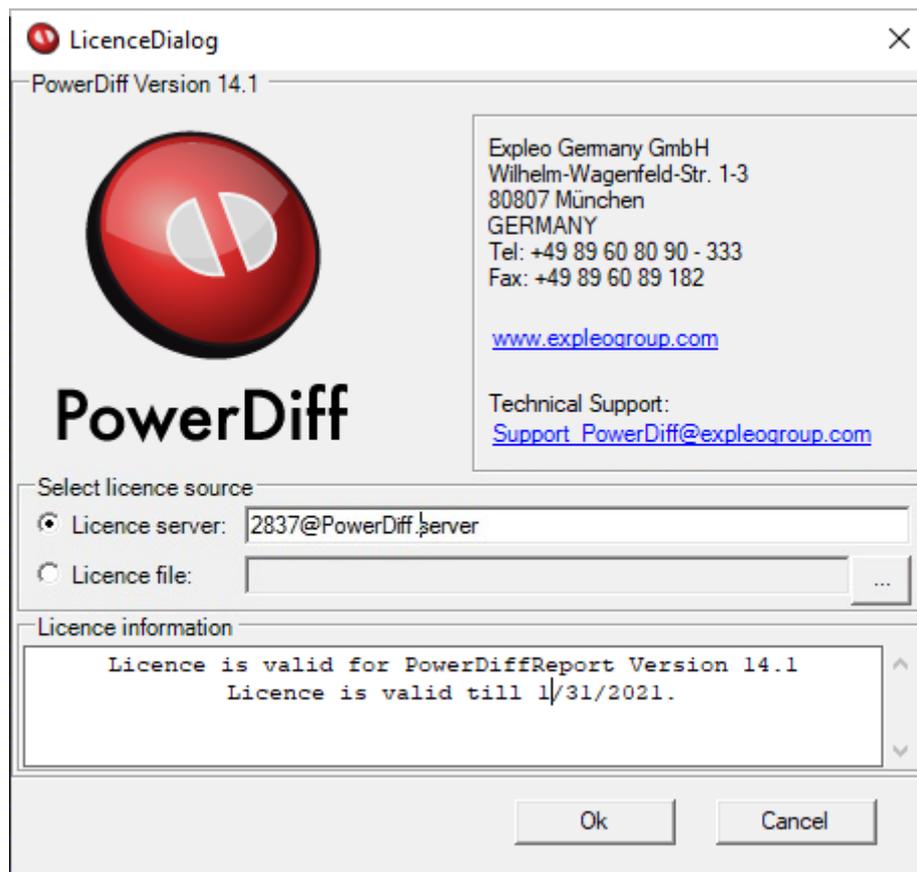


Figure 8: PowerDiff Licence Dialog with licence server entry

If the licence is valid the ok button can be pressed and PowerDiff starts. Once a valid licence was entered, it is not required to enter it again when using PowerDiff the next time.

For details on using PowerDiff refer to the PowerDiff User Guide.

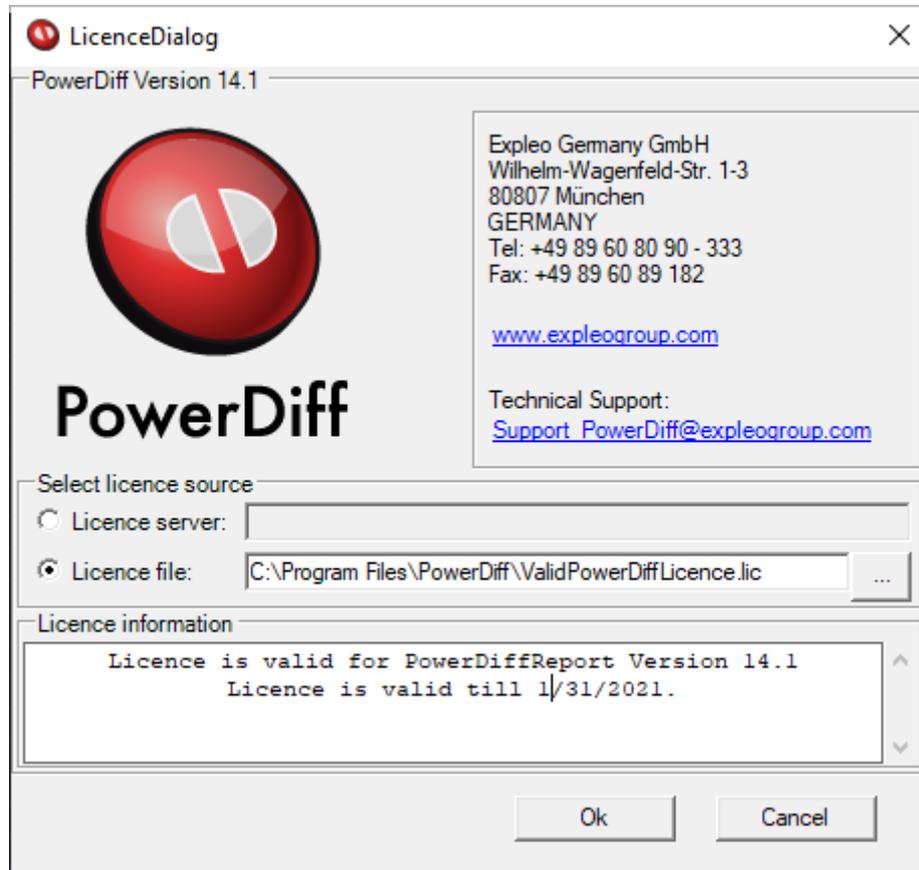


Figure 9: PowerDiff Licence Dialog with licence file entry

## 4.2 Manually add licence in the registry for all users

It is possible to set the licence for all users, before first start of PowerDiff. To do this you have to enter a string named "licence" in the registry path "HKEY\_LOCAL\_MACHINE\SOFTWARE\Expleo-Germany\PowerDiff". The value of the string must be the same as in the licence dialog either a server licence or a file licence.



## APPENDIX A: POWERDIFF REGISTRATION FORM

```

=====
User Information
-----
Company:
Division:
Name, First Name:
Telephone:
Mobile:
E-Mail:
E-Mail:
=====

=====
Licence Information
-----
|PowerDiff Version: |
-----
|Licence Type      | port number      | Desktop/Server Name | Valid for (select one) |
| (floating or     | (only for       |                     | evaluation | unlimited |
| node locked)    | floating licence)|                     |           |           |
|-----|-----|-----|-----|-----|
|               |                 |                     |           |           |
|-----|-----|-----|-----|-----|
|               |                 |                     |           |           |
|-----|-----|-----|-----|-----|
|               |                 |                     |           |           |
|-----|-----|-----|-----|-----|
|               |                 |                     |           |           |
|-----|-----|-----|-----|-----|
=====
    
```

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