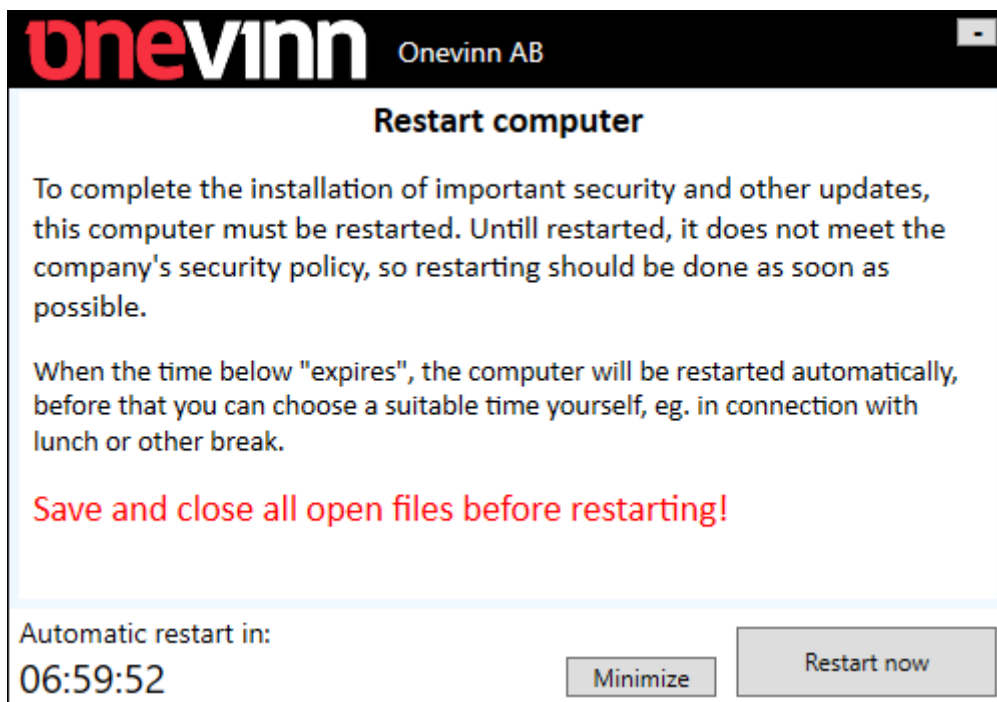


Onevinn RebootWatcher





Content

1. Version	3
2. Description and limitations	4
3. Requirements	4
4. Installation	4
4.1. RebootWatcher	4
4.2. Protected PC.....	5
4.3. RebootConfigurator.....	5
5. Configuration	5
6. Custom Settings	7
6.1. Pending restart detection.....	7
6.2. Scheduling	8
6.3. Design and behavior.....	8
6.4. Language	9



1. VERSION

Version	Author	Date	Remark
1.0	Johan Schrewelius	2020-01-21	Document created
1.1	Sassan Fanai	2020-06-26	Translated to English



2. DESCRIPTION AND LIMITATIONS

The purpose of RebootWatcher is to act as a last resort for computers that have not restarted after an upgrade, a patch or application installation that do require a restart.

RebootWatcher can be configured to detect pending restarts as much as once per day, in other words, seven times per week. When a pending restart is detected a configurable countdown is initiated that would normally be set to x number of hours. The user is then informed about the pending restart by a dialog window in the middle of the screen and then continuously with toast notifications until the countdown reaches 0 and a forced reboot is initiated.

The countdown timer to the forced restart is configurable but cannot be changed by the user. The user will not be able to schedule the restart via RebootWatcher.

3. REQUIREMENTS

RebootWatcher requires that .NET Framework 4.6.2 or later is installed on the client. RebootWatcher is designed to be used with Microsoft Endpoint Configuration Manager.

4. INSTALLATION

4.1. RebootWatcher

RebootWatcher is packaged as a stand-alone MSI and is dependent on an external **Settings** folder as per the image below

Name	Date modified	Type	Size
Settings	1/21/2020 12:35 PM	File folder	
RebootWatcher 1.0.20021.09.msi	1/21/2020 12:32 PM	Windows Installer ...	1,336 KB

The **Settings** folder will include one or more RTF file(s) and an XML configuration file.

The **RTF** files contain the message that will be shown to the user when a pending restart is detected, these files need to be named according to standard language tags. For example, a **en-US.rtf** file would contain the English message and a **sv-SE.rtf** would contain the Swedish message. The number of RTF files are simply put dependent on how many languages you want to support.



Network > sccm01.eklient.lab > pkgsource\$ > Applications > RebootWatcher 1.0.20021.09 > Settings

Name	Date modified	Type	Size
en-US.rtf	1/21/2020 9:53 AM	Rich Text Document	1 KB
RebootWatcher.xml	1/21/2020 12:36 PM	XML Document	2 KB
sv-SE.rtf	1/21/2020 9:52 AM	Rich Text Document	2 KB

Install command in MEMCM:

Msiexec /i "RebootWatcher <version>.msi" /qn

4.2. Protected PC

If you want to "protect" a PC from the forced restart (initiated by RebootWatcher) but still show the message about the pending restart to it, then you install RebootWatcher with the following MSI property: **PROTECTEDPC=True**

Msiexec /i "RebootWatcher <version>.msi" PROTECTEDPC=True /qn

This can also be configured on clients that already have RebootWatcher installed by changing the following registry value on the clients from **False** to **True**

Key: HKLM\Software\WOW6432Node\Onevinn\RebootWatcher
Value: ProtectedPC

Computer\HKEY_LOCAL_MACHINE\SOFTWARE\WOW6432Node\Onevinn\RebootWatcher

Name	Type	Data
(Default)	REG_SZ	(value not set)
ProtectedPC	REG_SZ	False
Version	REG_SZ	1.0.20157.01

4.3. RebootConfigurator

RebootWatcher.xml is created and edited with the help of the **RebootConfigurator** tool which is a separate installation that will be covered in the next section.

5. CONFIGURATION

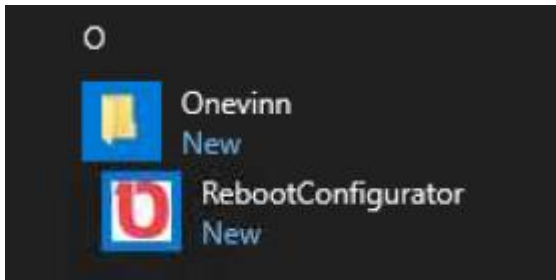
RebootConfigurator is a tool used to create and edit **RebootWatcher.xml** that needs to be included in the Settings folder which contains the configuration for RebootWatcher.

Install the tool by simply double-clicking on it or by running the following command:

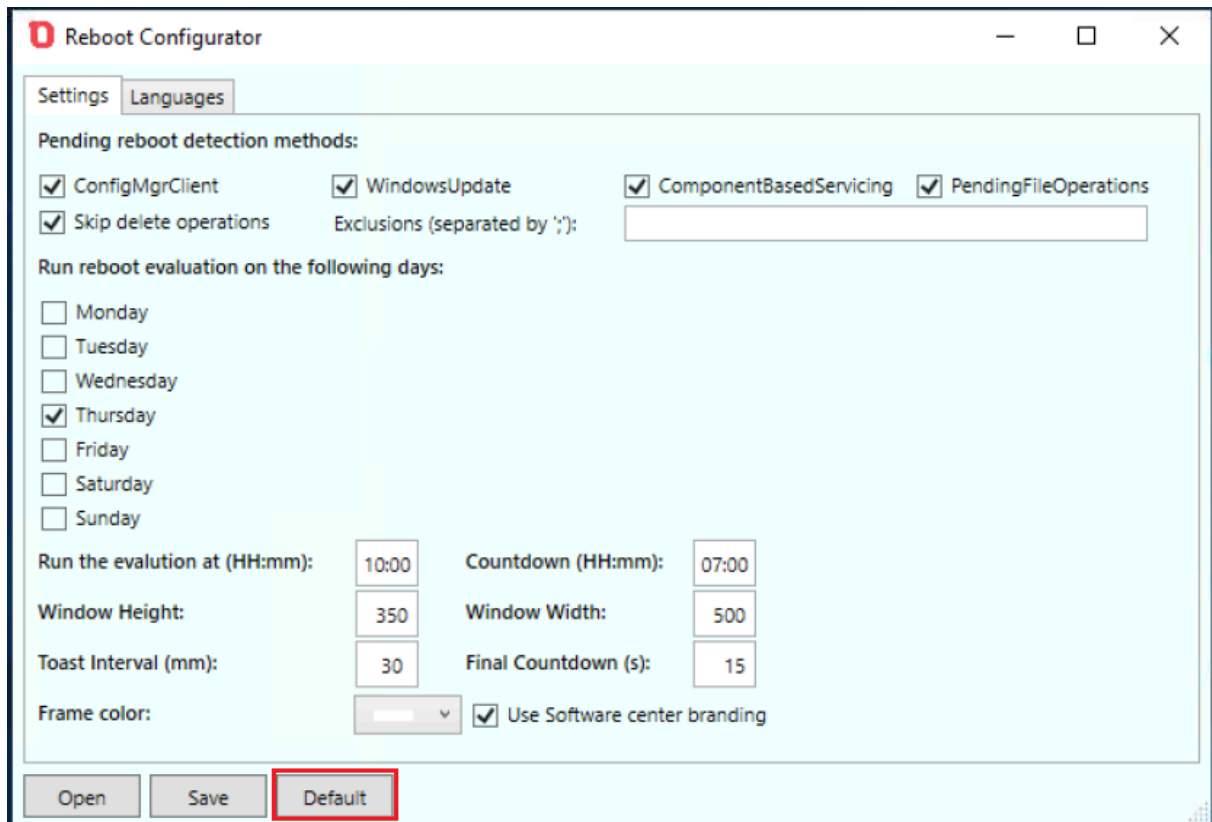


Msiexec / "RebootConfigurator <version>.msi" /qb

It can then be found and started from the start-menu:



Click on the **Default** button to load the default settings:



The default settings can be used as-is without any further customization but may need to be edited for the best result and experience in each environment. Check out the next section for details about these settings.



6. CUSTOM SETTINGS

6.1. Pending restart detection

RebootWatcher can detect pending restarts in four different ways:

Pending reboot detection methods:

<input checked="" type="checkbox"/> ConfigMgrClient	<input checked="" type="checkbox"/> WindowsUpdate	<input checked="" type="checkbox"/> ComponentBasedServicing	<input checked="" type="checkbox"/> PendingFileOperations
<input checked="" type="checkbox"/> Skip delete operations	Exclusions (separated by ';'): <input type="text"/>		

- Configuration Manager client
- Windows Update
- Component based servicing
- Pending file operations

The first two (Configuration Manager client and Windows Update) are usually caused by application installations and security updates, respectively. Windows Update is often detected at the same time as Component based servicing, which in turn is usually caused by the installation of the cumulative quality updates.

Pending file operations can be caused by any one of the three above (Configuration Manager client, Windows Update and Component based servicing), but also by application updates. File operations are necessarily not always a reason to restart the computer though. There are different types of file operations: **delete**, **rename** and **move**. If a file is only going to be deleted then there's usually no reason to force a restart of the computer, on the other hand if there are files that need to be renamed or moved then there might be a risk the computers functionality will be negatively impacted until the computer is restarted.

Because of this it is possible to filter out the **delete** file operations from the pending restart detection. It is also possible to exclude a list of recurring file operations you know do not need to be performed right away. RebootWatcher will then check if the file operation contains (not absolute match) any of the exclusions in that list and skip the pending restart detection if there is a match.

File operations are hidden in the registry key **PendingFileRenameOperations** which is located under:

HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Session Manager

Example:

Exclusions (separated by ';'):

Link to a good resource for more details about these file operations: <https://bit.ly/2RC11f>



6.2. Scheduling

Specify which day(s) you want RebootWatcher to run:

Run reboot evaluation on the following days:

- Monday
- Tuesday
- Wednesday
- Thursday
- Friday
- Saturday
- Sunday

Run the evaluation at (HH:mm): Countdown (HH:mm):

Also specify at what time RebootWatcher should run on the selected days and how long the countdown to the forced restart should be.

Scheduling theory:

The idea is that RebootWatcher will be configured in such a way that it runs 1-2 days after the regular patch window. With the default settings it will run every Thursday at 10 AM with a 7-hour countdown until a forced restart is initiated, with the intent that the user should be able to have nearly a full workday without being interrupted by a forced restart. If the computer has not been restarted when the countdown is over and deadline is reached, we assume that the user is done for the day, and that it is okay to restart the device.

6.3. Design and behavior

The size of the dialog window that shows the message and the countdown can be adjusted with the **Windows Height** and **Windows Width** settings, these are dependent on how much text there is in the RTF-file(s) and may need to be adjusted to make it all fit in the window.

Window Height: Window Width:

Toast Interval (mm): Final Countdown (s):

Frame color: Use Software center branding

In the picture above there are some other settings that will be covered on the next page.



Toast Interval: How often the toast notification will remind the user about the current countdown. Can be disabled by setting it to zero (0). Unit: **Minutes**.

Final Countdown: Is a song by Swedish rock band Europe, released in 1986. Written by Joey Tempest, it was based on a keyboard riff he made in the early 1980s, with lyrics inspired by David Bowie's "Space Oddity". After this piece or valuable side-information... Back to the subject:

When the user presses the "Restart now" button, Windows will show its built-in message/notification for restarts, the time specifies how much time there will be to the actual restart. Could for example be a good idea to give the user a last chance to save and close any open files and applications. Can be disabled by setting it to zero (0). Unit: **Seconds**.

Frame color: The color of the frame of the window and title (this does not apply if "Use Software Center branding" is checked).

Use Software Center branding: If Software Center branding/customization is specified in MEMCM Client Settings, RebootWatcher can use that. This is the recommended setting as the logo and graphical profile will match what the users probably already are familiar with. The cover page of this document shows a good example.

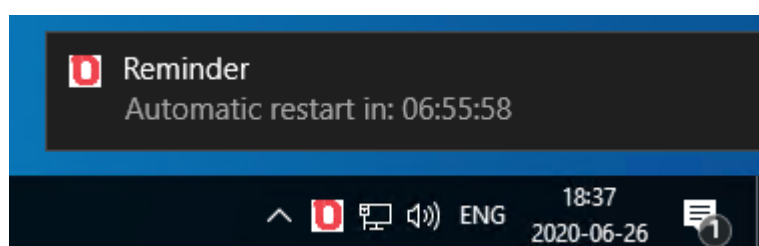
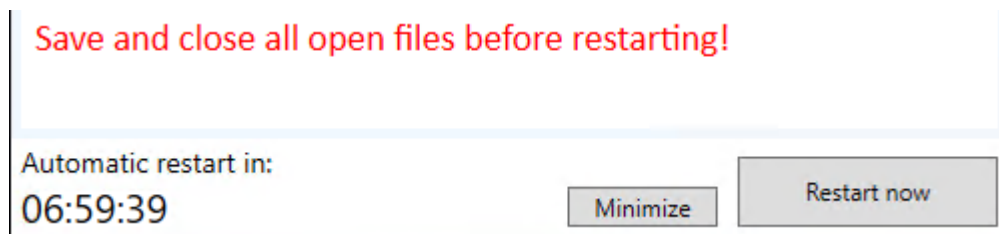
6.4. Language

The **Languages** tab contains language-specific settings. The first language (at the top) will be used as fallback for clients that are using an OS language that is not configured in RebootWatcher.

Language	Id	CountDownText	MinimizeButtonText	RestartButtonText	ToastTextLine1	ToastTextLine2	TrivialText	FinalText
sv-SE	sv-SE	Tid till automatisk omstart:	Minimera	Starta om nu	Påminnelse	Tid till automatisk omstart: %TIMELEFT%	Tid till omstart: %TIMELEFT%	Tack så mycket för din medverkan!
en-US	en-US	Time until autoamtic restart:	Minimize	Restart Now	Reminder	Time until autoamtic restart: %TIMELEFT%	Time until restart %TIMELEFT%	Thank you for your participation!



The pictures below illustrate how the language settings correspond to the dialog window and the toast notification.



FinalText: FinalText can be used to personalize Windows built-in restart message/dialog.



NOTE: If a language is added on the Languages tab, then you must create an RTF-file containing the message in that language.