Title:

PostWindowsInstallation

Overview and Guide

History

Version	State/Change	Date	Author
1.0	First release	05/05/2020	Jochen Schmitt
1.1	Changes regarding Version 1.2	11/05/2020	Jochen Schmitt
1.2	Enhancement Setup.inf usage	02/11/2021	Jochen Schmitt
1.3	New variables and functions like SetEmpirumServerEnvVariable and SetWindowsFirstInBootOrder	10/26/2021	Jochen Schmitt
1.4	Show installed Windows-Version after Windows installation. Configure Windows DriverUpdate behaviour.	02/09/2022	Jochen Schmitt

1 Table of content

2   Introduction

As with the other innomea PreOS packages, we saw optimization potential. Many users of the operating system installation via WinPE have missed the settings that they used when installing the operating system via Empirum PE (EPE for short).

The PreOS package PostWindowsInstallation is intended to close this "gap" or perhaps even go beyond it in some places.

Functional scope:
- Immediately after the Windows installation, the package sets the ownership and company data in the registry, other as the preset values "Matrix42 AG".
- The support information that is displayed in the control panel can be stored.
- The property "Password never expires" is set for the local user from the "WindowsInstallation.LocalUserName" variable. This user is created as a local administrator during the operating system installation. Unfortunately, the password expires after a defined period of time.
- Access via remote desktop / terminal services can be permitted.
- The firewall for the domain profile can allow all incoming connections. The setting can be made based on the "outdated" option of completely deactivating the firewall.
- The firewall activated by default can be opened regarding incoming push requests from the software distribution.
- In the directory C:\EmpirumAgent\Drivers and below, Setup.inf files are searched and executed with Empirum Setup.exe. This corresponds to the "old" automatism that drivers are executed as a package. In addition to plug & play drivers during the operating system installation, drivers can also be executed subsequently via EXE / MSI etc.
- The label of drive C: can now be modified. By default Empirum is using the label "Windows".
- If necessary, the KMS server can be set manually before activation instead of being automatically determined in the local network.
- The Windows Boot Manager can be placed on the top of the Boot Order (Version 1.3)
- The EmpirumServer variable from WinPE/PreOS Stage can be set as an Environment Variable. If the fresh installed UEM-Agent does not get an EmpirumServer assigned (mostly while using EmpirumServer assignment), this will be used as a fallback (Version 1.3)
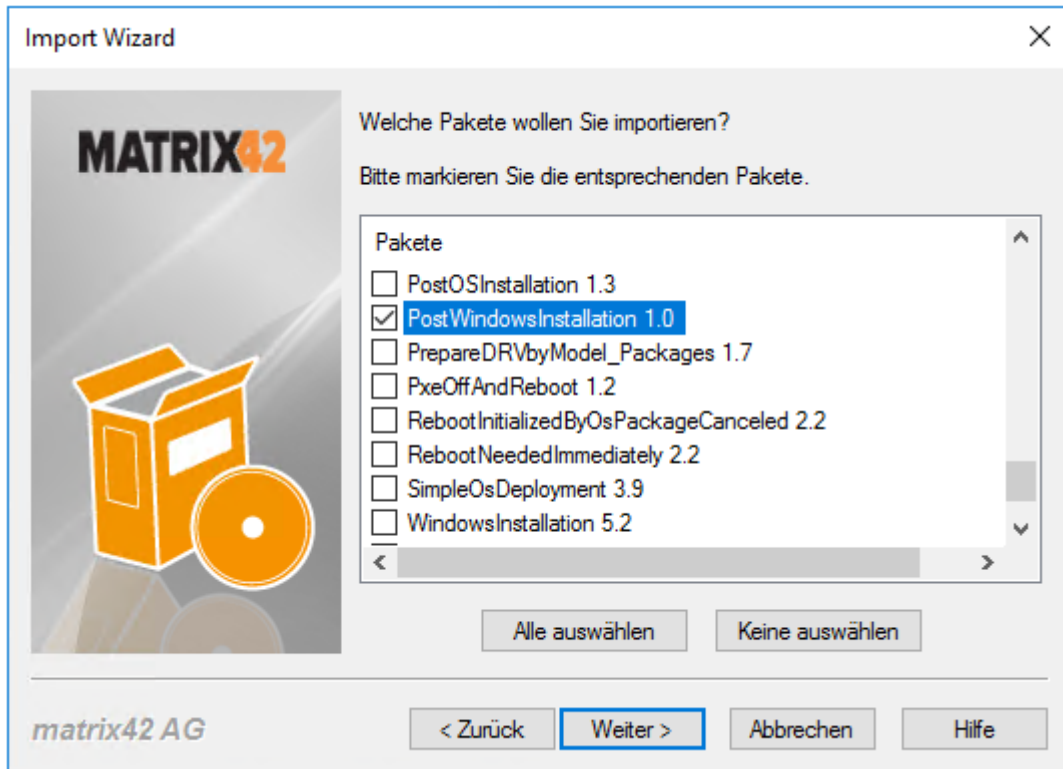
3   Installation

The included ZIP file contains an Empirum structure like the Empirum WinPE AddOn. This Empirum structure must be copied in the existing Empirum structure on the EmpirumServer. This places the WinPE package in the PackageStore folder and is ready to get imported.

4   Import des PreOS-Paketes

With the previous steps you prepared the package files for the import process to the Empirum structure and database. In addition, you must import the package using the Management Console to be prepared for distribution. If this topic is new for you, you can grab helpful instructions from the Step by step Guide on help.matrix42.com.

During the Import Wizard choose "PostWindowsInstallation 1.x" from the list and activate this package for distribution. The two following figures show what is important during and after the import. Please note that the available version may be higher than the one shown here.

1 – Selection window from the Import Wizard (preferably use 'select none' before proceeding)
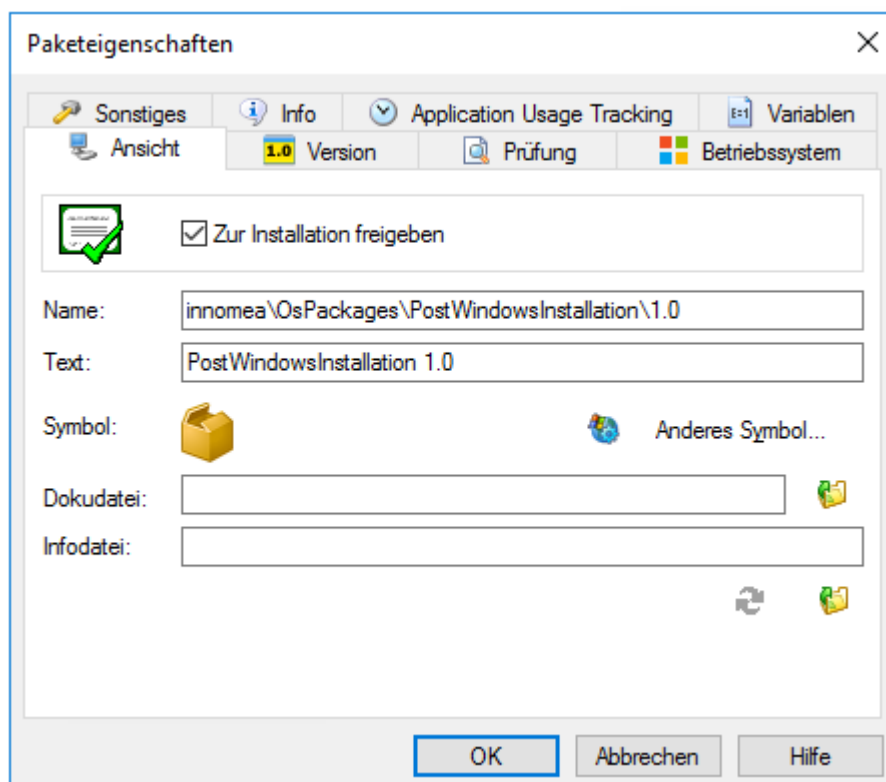
2 -Package properties: 'Ready to install'

4.1 *Sequence and dependencies*

Because the arrangement of the WinPE packages is affecting the installation sequence, you must arrange them in the right order.

The following figure shows where the "PostWindowsInstallation 1.x" package must be inserted. The package should run after „PxeOffAndReboot" and before „DomainJoin" . Please note that the available version may be higher than the one shown here.
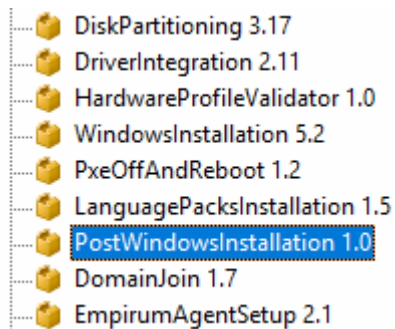
5 Assignment

Now you need to assign the package to a configuration- or assignment groups in which the OS installation will be done using WinPE.

6 Output

The actions, depending on the variables and their configurations will be documented in the PXE-Log.

Here is an example of the PXE-Log:

7 Configuration options

Settings that were made in the OperatingSystem templates (at the time of Empirum EPE) can now be set using variables.

These variables can conventionally be set, adopted, and inherited in the Management Console in the configuration and assignment group structure. Alternatively, the function of the Variable Configurations can also be used.

This is a screenshot showing the variables set using the Variable Configurations.

Variable	Wert	Beschreibung
PostWindowsInstallation 13 Variable(n)		
RegisteredOwner	innomea GmbH	Sets the Registered Owner information in the registry.
Company	innomea GmbH	Sets the Company information in the registry.
SupportURL	https://www.innomea.de	Sets the Support URL in the registry and overwrites the standard Matrix42 values.
DisableDomainFirewall	0	Set this value to 1 to allow incoming connections in the Windows firewall - Domain profile.
EnableRDPAccess	1	Set this value to 1 to allow RDP/MSTSC access to the installed Windows client.
AllowEmpirumSoftwarePush	1	Set this value to 1 to allow Empirum to Push Software to this computer. This will do changes to the Windows f...
SetupTimeoutInSec		Timout in seconds to execute a found Setup.inf (minimum value is 180).
ShowPackageValuesInPxeLog	0	Set this value to 1 to show the variables for this package in the PXE-Log.
SupportPhone	0049 6023 3209209	Sets the Support Phone number in the registry. This can be seen in the SystemInformation.
LabelNameDriveC	SYSTEM	Give Drive C another Label as Windows. Max. 32 characters!
ManualKMSServer	MyKMSServer:1688	If needed, set the KMS-Server manual to <Servername>:<Port>. Leave empty to use the automatic detection.
SetEmpirumServerEnvVariable	1	Set this value to 1 to set EmpirumServer Environment variable to the EmpirumServer used during OS Deploy...
SetWindowsFirstInBootorder	1	Set this value to 1 to set Windows at the beginning of the boot order. Do nothing or set the value to 0 to do...

Variable	Type	Description
RegisteredOwner	Text	Text shown in Control Panel/System
Company	Text	Text shown in Control Panel/System
SupportUrl	Text	Text shown in Control Panel/System
SupportPhone	Text	Text shown in Control Panel/System
DisableDomainFirewall	Number [1|0], Default:0	1: disables the Firewall of the Domain Profile and opens the Firewall for Incoming traffic.
EnableRDPAccess	Number [1|0], Default:0	1: enables RDP/MSTSC on the client (Firewall and Settings)
AllowEmpirumSoftwarePush	Number [1|0], Default:0	1: opens the Firewall for incoming Empirum Push Commands
SetupTimeoutInSec	Number, Default:180	Max. Setup.exe/inf runtime.
ShowPackageValuesInPxeLog	Number [1|0], Default:0	The variables will be shown in the PXE-Log.
LabelNameDriveC	Text	Changes the label of drive C:. You can use a maximum of 32 characters. If you does not set a label, the predefined label will be used.
ManualKMSServer	Text	Sets a manual KMS-Server for the Windows Activation process. You can use this, if the KMS-Server is tot published by the DNS. Input: Servername:Port
SetEmpirumServerEnvVariable	Number [1|0], Default:0	If set to 1, the EmpirumServer from WinPE Deployment will be set as EmpirumServer as a fallback for the UEM-Agent.
SetWindowsFirstInBootorder	Number [1|0], Default:0	If nothing is set, no changes will be done. If set to 1, the Windows will be placed to top of the BootMgr list.
BlockDriverUpdatesfromWindowsUpdate	Number [1|0], Default:0	If nothing is set, no changes will be done. If set to 1, the default behaviour according DriverUpdates using WindowsUpdate is changed/blocked.

8 Logs

Informations will be shown in the PXE-Log and stored additionally in the file system:
C:\Windows\Temp\innomea_PostWindowsInstallation.log.
Modifications of the WinActivation.bat can be viewed in the copy of the
%windir%\Temp\WinActivation.bat.

8.1 Example PXE-Log

```
[PEAgent] [Windows] Finished execution of innomea\OsPackages\PostWindowsInstallation\1.2
package.
[PEAgent] [Windows] [DriverInstallation] Execute: C:\EmpirumAgent\Drivers\Setup.exe
C:\EmpirumAgent\Drivers\vmWorkstation\HWspecificSW\Setup.inf /S0 /X8
[PEAgent] [Windows] [ChangeTheWinActivationbat] Manipulate the C:\UAF\WinActivation.bat
file
[PEAgent] [Windows] [ChangeDriveLabel] Set label of Drive C to: SYSTEM
[PEAgent] [Windows] [Firewall] Allow Empirum SoftwarePush Jobs
[PEAgent] [Windows] [Firewall][Registry] Allow RemoteDesktop
[PEAgent] [Windows] [Registry] Set Systeminformation properties
[PEAgent] [Windows] [Registry] Set values to filter systems installed by Empirum OS
Installer
[PEAgent] [Windows] [Security] Set PasswordNeverExpires for user LAdmin
[PEAgent] [Windows] Start to execute innomea\OsPackages\PostWindowsInstallation\1.2
package.
```

9 Installation of drivers using Setup.inf

The PostWindowsInstallation packages searches through the "Drivers" folder for Setup.inf files and executed them using the Empirum Setup.inf. This method allows to install drivers using EXE and MSI files. To start the installation of EXE and MSI files a basic Setup.inf file could be used.

9.1 Example 1

```
[Setup]
Version=6.5
ShowCaption=1

[Application]
ShowEndMessage=0
DisableCancelButton=1

[Options]
Commands = Commands, COPYALWAYS


;-----------------------------------------------------
; folder structure example
;-----------------------------------------------------
; HWspecificSW
; HWspecificSW\Setup.inf (this file)
; HWspecificSW\vmTools (folder example)
; PNP
; PNP\* (extracted SCCM driver package or similar)
;-----------------------------------------------------

[Commands]
;---create a log folder
MD C:\EmpirumAgent\Drivers\Log

;Install vmware Tools
;Addmeter 10
CD "%SRC%\vmTools"
CALL "%SRC%\vmTools\Setup64.exe" /s /v "/qn reboot=r"
```

9.2 *Example 2*

```
[Setup]
Version=6.5
ShowCaption=1

[Application]
ShowEndMessage=0
DisableCancelButton=1

[Options]
Commands = Commands, COPYALWAYS


;-----------------------------------------------------
; folder structure example
;-----------------------------------------------------
; HWspecificSW
; HWspecificSW\Setup.inf (this file)
; HWspecificSW\Nvidia (folder example)
; HWspecificSW\MEI (folder example)
; PNP
; PNP\* (extracted SCCM driver package or similar)
;-----------------------------------------------------

[Commands]
;---create a log folder
SET LogFolder= C:\EmpirumAgent\Drivers\Log

MD "%LogFolder%"

;Install Dell Power Management Driver
CALL "%SRC%\PowerMgmt\DPM_Setup64_3_5_0.exe" /S /v"/qn"

;Install NVidia Video driver
CD "%SRC%\NVidia"
CALL "%SRC%\NVidia\Setup.exe" -s -clean -noeula -noreboot

;Install Intel Management Interface
Addmeter 10
CALL "%SRC%\MEI\SetupME.exe" /S

;Install Mobile Connect Driver - using MSI Installer
CALL Msiexec /i "%SRC%\MobileConnect\DellMobileConnectDrivers.msi" ALLUSERS=1
REBOOT=ReallySuppress /qn /Li* "%LogFolder%"
```

10 History of PostWindowsInstallation

Version	Comment
1.0	Initial Release
1.2	Added feature LabelNameDriveC and ManualKMSServer
1.3	Added features SetEmpirumServerEnvVariable and SetWindowsFirstInBootorder
1.5	Added feature BlockDriverUpdatesfromWindowsUpdate and showing the Windows version after Windows installation.