

## RELEASE NOTES

PACE Suite 5.5

# 6000000000000000

#### Release Notes PACE Suite 5.5 Table of Contents

1	PA	ACE Suite Overview
	1.1	Software Prerequisites
	1.2	Hardware Prerequisites
2	Re	elease Notes
	2.1	About This Release
	2.2	MSIX runtime fixes (PSF)
	2.3	System searches7
	2.4	INI files editor
	2.5	MSI signing9
	2.6	Feature resources
	2.7	Export & replace file
	2.8	Permission settings
	2.9	Group operations
3	Re	elease History14



PACE Suite 5.5



## 1 PACE Suite Overview

PACE Suite is an advanced and fast software-packaging tool with an intuitive user interface and set of features providing (re)packaging in Windows Installer, UWP (MSIX/APPX) and various virtualized formats.

#### Components:

Арр	Purpose
Launcher	<ul> <li>Combine all PACE Suite tools (listed below)</li> <li>Collect all major functions in a single place for quick access</li> <li>Configure virtual machine configuration for remote capturing and testing, etc.</li> </ul>
Setup Capture	<ul> <li>Run repackaging on remote virtual machine</li> <li>Run repackaging on local host</li> <li>Detect embedded (hidden) MSI installers</li> <li>Take system snapshot on local host</li> <li>Compare two snapshots on local host</li> </ul>
MSI Generator	<ul><li>Edit installation project</li><li>Build MSI, MSIX, APPX, APPV, THINAPP package</li></ul>
MSI Editor	<ul> <li>Edit MSI/MST</li> <li>Create MSP, MSM</li> <li>Integrate MSI upgrade</li> <li>Estimate package complexity</li> <li>Run ICE validation</li> <li>Publish to Microsoft SCCM 2007, 2012, 2016.</li> <li>Generate package report</li> </ul>
Quality Approver	<ul><li>Check MSI readiness</li><li>Check MSIX/APPX readiness</li></ul>
Docu Generator	• Record on-screen actions into a document



	s are Prerequisites target system contains necessary software prerequisites:
	Windows or Windows Server OS that supports .NET 4.7.2 ( <u>https://docs.microsoft.com/en-us/dotnet/framework/get-started/system-requirements</u> ) or higher.
OS	NOTE Building Universal Windows Platform app packages (MSIX/APPX) is available under Windows 10 or Windows Server 2016 and newer.
	Automated package testing with <b>Quality Approver</b> requires a virtual machine with Windows 10 version 1803 or newer.
	Microsoft .NET Framework 4.7.2 ( <u>https://dotnet.microsoft.com/download/dotnet-</u> <u>framework-runtime</u> ) or higher.
Middleware	NOTE For building THINAPP packages, ensure that your system contains VMware ThinApp (5.0.0/5.0.1/5.1.0/5.1.1/5.2.0) installed and activated with the valid license.
	For publishing MSI packages to Microsoft SCCM 2007 (SP1/SP2/R1/R2) or SCCM 2012 (SP1/SP2/R2/R2 SP1) server, ensure that your system contains Microsoft Management Framework 3.0 and Windows Remote Management (WinRM) service enabled.
Privileges	Administrative privileges on the system.

### 1.2 Hardware Prerequisites

Ensure that a target system fulfils the minimum hardware conditions:

	32-bit (x86) or 64-bit (x64) processor at 2 GHz or greater
Processor	<b>NOTE</b> To repackage 64-bit applications or create 64-bit App-V packages, use PACE Suite on a 64-bit Windows operating system.
RAM	2 GB
Hard drive free space	1 GB NOTE Additional storage is required for your projects and packages and depends on their size and quantity.
Display	1280 x 800 resolution or higher.



Release Notes PACE Suite 5.5

## 2 Release Notes



#### 2.1 About This Release

The 5.5 release of PACE Suite includes the following new features:

MSIX runtime fixes (Package Support Framework)

The MSIX runtime fixes are useful in most cases when your Win32 app fails to run from MSIX. *For details, see section 2.2* 

#### • System searches (via AppSearch)

Search for existing files/folders, registry data, INI content or installed component on the target system during installation. The search results can be used as conditions to determine the outcome of the current installation. *For details, see section 2.3* 

INI files editor

Easily find all INI files of the package in one place and author their content in a brand new INI editor. *For details, see section 2.4* 

• MSI digital signing

Digitally sign your MSI package to protect resources from tampering. For details, see section 2.5

#### • Feature resources

Discover what resources will be installed by all components of the every feature in a convenient list at the separate view. *For details, see section 2.6* 

#### • Export & replace file

Need to modify/replace a file of the package that is stored as a binary? No problem with new **Export file** and **Replace file** functions. *For details, see section 2.7* 

#### • Permissions settings

Define the permission settings to meet your corporate packaging standarts. *For details, see section 2.8* 

#### Group operations

Edit packages faster than before with multi-select and group operations that allow to select and move/remove many resources at once. *For details, see section 2.9* 



PACE Suite 5.5

#### 2.2 MSIX runtime fixes (PSF)

The **Package Support Framework** (PSF) is an open source kit that allows to apply runtime fixes to the repackaged Win32 app that fails to run in an MSIX container.

Here are some common examples where you can find the **Package Support Framework** useful:

• Your app can't find some DLLs when launched.

You may need to set your current working directory. You can learn about the required current working directory in the original shortcut before you converted to MSIX.

- The app writes into the install folder. You will typically see it by "Access Denied" errors in Process Monitor.
- Your app needs to pass parameters to the executable on launch.
   You can learn about the required parameters in the original shortcut before you converted to MSIX.

Using **PACE Suite** you can apply the pre-defined and custom MSIX runtime fixes to the repackaged app just in few clicks. Also, you can run PowerShell scripts before and after app to configure environment inside the MSIX container.

Edit package - PKG-200430-134440.mgp						_		Х
≡ MENU Package Files Shortcuts\Apps	Registry	System resour	rces			Search		Q
	Ν	MSI MS	SIX	UWP	APPV			
Apps & Runtime fixes (PSF)					Included: 1 app, 1 fixup	<b>V</b>	Collapse a	ill
Name				Туре	Details			
🖃 📦 Firefox (ID: firefox)				App	Executable: C:\Program Files\Mozilla Firefox\firefox.exe			
🖃 🎤 Package Support Framework (WkDir and Args settings)				PSF Launcher	Bitness: 32-bits			
🖃 🎤 File redirection fixup								
Redirection				Fixup	Redirection path: C:\Program Files\Mozilla Firefox/.*\\.log			
App WkDir and Args settings File redirect fixup								
DLL fixup Custom fixup PowerShell fixup								
Add 🔺 Exclude								

To apply MSIX runtime fixes, navigate to the **Shortcuts\Apps** > **MSIX** tab of **MSI Generator**.





PACE Suite 5.5

#### 2.3 System searches

System searches (AppSearch) allows to search for existing files/folders, registry data, INI content or installed component on the target system during installation. The search result is saved to a public property that can be used in various condition statements to determine the outcome of the installation (e.g. install components, run custom actions, etc.).

PACE Suite presents the dedicated view with the guided wizard to manage system searches.

Find system searches at Package Designer > System searches tab of MSI Editor.

MSI Editor - Mozilla Firefox 71.0 EN.ms	si					_		х
	Package Designer	Tables Editor						
Package resources	System search						5 items	$\overline{\mathbf{V}}$
Files and folders	Search target				Search area	Property		
INI entries	Folder A in [TARGETDIR]P	rogramFiles64Folder			File system	SEARCH_RESULT_2 (Signature: Signature	re_2)	
A Shortcuts	file A in All fixed drives				File system	SEARCH_RESULT_1 (Signature: Signature	re_1)	
🗞 Registry	key 1 in INI file A, [section				Inside INI file	SEARCH_RESULT_4 (Signature: Signature	re_5)	
Custom actions	🗞 Value A in HKLM\SOFTW				Registry	SEARCH_RESULT_3 (Signature: Signature	re_4)	
🗩 Drivers		A94-24F467F95979} in c	omponents of installed pro	ducts	Component keypath	SEARCH_RESULT_5 (Signature: Signature	re_6)	
🕶 ២ Package configuration			New search					
Features and components			Properties	F2				
ARP appearance			Remove	Del				
Q System search			<u> </u>					
🗲 Upgrades			Go to CompLocat					
Properties			Go to AppSearch	table				
Summary information								
Permissions								
A Media settings								
Digital signature								
	Add Rem	ove						



Release Notes PACE Suite 5.5



#### 2.4 INI files editor

In addition to the existing **Files and folders** tab, we developed the **INI entries** sub-view. This new view is laser-focused to work only with INI files. It hides all other files, so you can rapidly find all INI files of your package in one place. The new INI editor displays and allows to easily add/edit INI key-value pairs that are grouped under the INI sections. The INI files import has several options to store the file content and displays the detected invalid INI files.

Find this new view at Package Designer > INI entries tab of MSI Editor.

MSI Editor - Mozilla Firefox 71.0 EN.msi					– 🗆 X
≡ MENU Package Summary	Package Designer Tables Edi	tor			
🕶 🖿 Package resources	INI entries		7 files (745 entr	ies) 💙 Collapse	e all Show details
Files and folders	Name	Properties		- 0	X MSI table
INI entries	TARGETDIR	Hoperación de la construcción			Directory
ntcuts 🕐 Shortcuts	CommonAppDataFolder	General Per	missions		Directory
🗞 Registry	DesktopFolder				Directory
Custom actions	ProgramFiles64Folder				Directory
💋 Drivers	🖃 🔜 🔍 Mozilla Firefox (ID: INSTA	MSI table: 'IniFile'			Directory
🕶 🗁 Package configuration	browser				Directory
Features and components	defaults	Name			Directory
	fonts	config.ini			Directory
ARP appearance		Target (installation) folder			Directory
Q System search	uninstall	ProgramFiles64Folder\Test folder (ID: Testfolder) Browse			Directory
🖸 Upgrades	platform.ini	Hogrammesouri older (lest loider (l.D. lestiolder)	IniFile		
Properties	🖃 🔜 Test folder	Content			Directory
🔲 Summary information	config.ini	Value	Action	Component_	IniFile
🕰 Permissions	SMSCFG.INI	🖃 🛄 1			IniFile
🗁 Media settings	system.ini	State ID = 4444	Add/update	INI_config.ini1	IniFile
🕤 Digital signature	TWAINSP_Integrated_Ca	State Name = CBlankDialogResizeState	Add/update	INI_config.ini1	IniFile
	🔊 win.ini	B 2			IniFile
	ProgramFilesFolder	DiscoveryMethod = IPAddrORHostName	Add/update	INI_config.ini1	Directory
	StartMenuFolder	IPAddrORHostName = 172.27.236.52	Add/update	INI_config.ini1	Directory
	WindowsFolder	Discovery = Single Device	Add/update	INI_config.ini1	Directory
	security	State ID = 422	Add/update	INI_config.ini1	Directory
	database	State Name = CNewPtrIDChoiceState	Add/update	INI_config.ini1	Directory
	🖃 🔚 templates	🖃 🛄 3			Directory
	ac4b573.inf	🔎 State ID = 83	Add/update	INI_config.ini1	, IniFile
	Add 🔺 Remove	Save	Cancel		



PACE Suite 5.5

### 2.5 MSI signing

Digital signature allows to protect your package and its resources from tampering. It is highly recommended to digitally sign the package before publishing it on the web and distributing outside of your organization.

With PACE Suite you can generate a self-signed certificate in one click for testing purposes. Also, we have prepared the list of time stamping servers. The use of time stamping allows signatures to be verifiable even after the certificates used for signature have expired.

Find signing option at Package Designer > Digital signature tab of MSI Editor.

l MSI Editor - Mozilla Firefox 71.0 EN.m	nsi —		×					
	y Package Designer Tables Editor							
🕶 🖿 Package resources	Digital signature							
Files and folders	Digitally sign the package to protect resources from tampering. The recommended new SHA256 method (instead of unsecure SHA1) is supported 7 and all newer OS. The output files to be signed: MSI, external CAB.	on Wind	ows					
🅐 Shortcuts 🗞 Registry	☑ Enable package singing							
<ul> <li>Custom actions</li> <li>Drivers</li> </ul>	Signature settings O Sign with my certificate							
Package configuration     Features and components	Certificate file (.pfx)	Browse.						
ARP appearance System search	<ul> <li>Sign with auto-generated self-signed certificate (for testing purposes)</li> <li>NOTE The self-signed certificate is not trusted by the local computer until you install it into the trusted certificates store of the local computer.</li> </ul>							
C Upgrades	Certificate password							
<ul> <li>Properties</li> <li>Summary information</li> </ul>	*****	6	`					
Summary Information	Time stamping server							
A Media settings	http://timestamp.comodoca.com/rfc3161		~					
Digital signature	Displaying details (UAC window)							
	Description of signed product							
	Mozilla-Firefox-71.0							
	Product URL							

To sign the package, invoke either MENU > Save and sign or MENU > Save as.

MSI Editor - N	1ozilla Firefox 71.0 EN.msi	i		
■ MENU	Package Summary	Packa	ge Designer	Tables Editor
New MSI		Ctrl + N		
New MST			signature	
Open		Ctrl + O	in the package	to protect resources from t
Open recent		•		output files to be signed: <b>N</b>
Apply MST to	MSI		backage singing	9
Remove MST	from MSI			
			e settings	
Save		Ctrl + S	h my certificate	1
Save and sign	า		e file (.pfx)	
Save as				
Create MSP a	gainst original MSI		h auto-generat	ed self-signed certificate (fo
Generate page	kage report		he self-signed o	certificate is not trusted by f
Deploy to SC	СМ		assword	



PACE Suite 5.5



#### 2.6 Feature resources

Find out what files, registry and other resources will be installed by components of every feature. The resources are displayed in the convenient form at the separate new view.

Find feature resources either on **Details pane** or in the **Properties** window at **Package Designer** > **Features and components** tab of **MSI Editor**.

MSI Editor - Mozilla Firefox 71.0 EN.m	si	- D >	<
MENU Package Summary	Package Designer Tables Editor		
🕶 🛅 Package resources	Features and components 🛛 👪 🕨 🟹 Collapse a	all Hide details	
<ul> <li>Files and folders</li> <li>INI entries</li> <li>Shortcuts</li> <li>Registry</li> <li>Custom actions</li> <li>Drivers</li> <li>Package configuration</li> <li>Features and components</li> <li>ARP appearance</li> <li>System search</li> <li>Upgrades</li> </ul>	Name	Feature resources         Resources that are installed by the feature components.         Image: Ima	
<ul> <li>Opgradus</li> <li>Properties</li> <li>Summary information</li> <li>Permissions</li> <li>Media settings</li> <li>Digital signature</li> </ul>		A contribute Landlocell     Brancone Elloch / Enided Manilla Einefind Accountible Landlocell     ********************************	
	Add  Remove  Add  Add  Add  Add  Add  Add  Add  Ad	Image: Section 2016 Section 2017 Sectio	



PACE Suite 5.5

#### 2.7 Export & replace file

Need to modify/replace a file of the package that is stored as binary? Not a problem with new **Export** file and **Replace file** functions in the context menu.

**Export file** extracts the specific file from the internal/external CAB and saves it where you need. This feature is useful when you want to change data inside an XML or other configuration file and then replace this file in the package.

**Replace file** replaces the selected file in the package in few clicks. The replaced file can be saved to a new CAB (faster) or rebuild the existing CAB with the new file (longer). You can control this option for every replaced file.

MENU Package Summary	y Package Designer Tables	Editor						
Package resources	Files and folders		93 f	les (192,1 MB); 2 s	hortcuts 💙	Collapse all	Show det	tails
Files and folders	Name			Туре	Size	Version	MSI table	
🔊 INI entries	TARGETDIR			Folder			Directory	
📌 Shortcuts	CommonAppDataFolder			Folder			Directory	
🗞 Registry	🛄 👒 Mozilla			Folder			Directory	
> Custom actions	DesktopFolder			Folder			Directory	
🐓 Drivers	📦 Firefox.lnk		9	Advertised shortcu			Shortcut	
Package configuration	ProgramFiles64Folder			Folder			Directory	
5 5	🖃 🚞 💊 Mozilla Firefox (ID: I	🖃 🔚 🔍 Mozilla Firefox (ID: INSTALLDIR)					Directory	
<ul> <li>Features and components</li> <li>ARP appearance</li> <li>System search</li> </ul>	🖃 🔚 browser	🖃 🛄 browser					Directory	
				Folder			Directory	
	🗉 🔚 VisualElements			Folder			Directory	
😅 Upgrades	blocklist.xml		7	XML	362,7 KB		File	
Properties	Chrome.manif	Import files		MANIFEST	0 Bytes		File	
🔲 Summary information	Crashreporter-	Export File		INI	787 Bytes		File	
🕰 Permissions	📄 omni.ja	Replace file		JA	44,6 MB		File	
금 Media settings	🗈 🛄 defaults	New Duplicate file		Folder			Directory	
Digital signature	🗈 🚞 fonts			Folder			Directory	
	🗉 📰 gmp-clearkey	New subfolder		Folder			Directory	
	🗉 🛄 uninstall	Properties F2		Folder			Directory	
	Accessible.tlb	Set as INSTALLDIR		TLB	2,9 KB		File	
	AccessibleHandler	Move to folder		DLL	164,1 KB	71.0.0.7275	File	
	AccessibleMarsha	Remove Del		DLL	28,6 KB	71.0.0.7275	File	
	api-ms-win-core-t			DLL	18,2 KB	10.0.17134.12	File	
		Go to File table		DLL	18,2 KB	10.0.17134.12	File	
	api-ms-win-core-lo			DLL	20,7 KB	10.0.17134.12	File	
	api-ms-win-core-pr			DLL	18,7 KB	10.0.17134.12	File	
	api-ms-win-core-sy			DLL	18,7 KB	10.0.17134.12	File	
	api-ms-win-core-tin			DLL	18,7 KB	10.0.17134.12	File	
	api-ms-win-crt-con			DLL	19,2 KB	10.0.17134.12	File	
	api-ms-win-crt-con	vert-I1-1-0.dll		DLL	22,2 KB	10.0.17134.12	File	



PACE Suite 5.5

#### 2.8 Permission settings

If the default permission settings do not meet your corporate packaging standarts, you can change them in the new view. Set names of the security template and database files, override database, logging and silent options.

Find the permission settings at Package Designer > Permissions tab of the MSI Editor.

Ø MSI Editor - Mozilla Firefox 71.0 EN.msi	_	$\times$
<ul> <li>Package resources</li> <li>Files and folders</li> <li>NI entries</li> <li>Shortcuts</li> <li>File naming</li> <li>Custom actions</li> <li>File naming</li> <li>Security template</li> <li>fac4o573.inf</li> <li>Security template</li> <li>fac4o573.inf</li> <li>Security database</li> <li>Addition</li> <li>Features and components</li> <li>ARP appearance</li> <li>System search</li> <li>Upgrades</li> <li>Summary information</li> <li>Suppres</li> <li>Edit</li> <li>Digital signature</li> </ul>		



PACE Suite 5.5

#### 2.9 Group operations

With PACE Suite you can edit your packages faster than before. The thing is, we've added the support of group operations for managing resources at **Package Designer** of **MSI Editor**. Now you can select many files, located atdifferent places and move them to one folder at once. Also, you can move/remove many components at once as well.

Muti-select and group operations work for all resources that are presented at **Package Designer**.

MENU Package Summary	Package Designer Tables Editor						
Package resources	Features and components				# 🕨 🝸	Collapse all Sho	w detai
Files and folders	Name		Туре		KeyPath		
INI entries	<no title=""> (ID: UserPart)</no>		Feature (Install, Not visible)				
📌 Shortcuts	FeatureResources		Linked resources				
🗞 Registry			Feature (Install, Not visible)				
Custom actions	FeatureResources		Linked resources				
🐓 Drivers			Component (64-bit)		ProgramFiles64Folder\Mozilla Firefox\gmp-clearkey\0.1\clear		
Package configuration	🗉 🔛 Accessible.tlb	Component (64-bit)		ProgramFiles64Folder\Mozilla Firefox\Accessible.tlb (ID: Acces			
AccessibleHandler.dll			Component (Conditions, 64-		ProgramFiles64Folder\Mozilla Firefox\AccessibleHandler.dll (II		
Features and components	🗷 🔛 AccessibleMarshal.dll		Component (Conditions, 64-bi		ProgramFiles64Folder\Mozilla Firefox\AccessibleMarshal.dll (II		
ARP appearance	I i i i i i i i i i i i i i i i i i i i		Component (Conditions, 64-bi		ProgramFiles64Folder\Mozilla Firefox\api-ms-win-core-file-I1-		
Q System search			Component (Conditions, 64-bi		ProgramFiles64Folder\Mozilla Firefox\api-ms-win-core-file-I2-		
🖸 Upgrades	api_ms_win_core_localization_l1_2_0.dll		Component (Conditions, 64-bi		ProgramFiles64Folder\Mozilla Firefox\api-ms-win-core-localiz		
Properties	api_ms_win_core_processthreads_l1_1_1.dll		Component (Conditions, 64-bi		ProgramFiles64Folder\Mozilla Firefox\api-ms-win-core-proces		
Summary information	api_ms_win_core_synch_l1_2_0.dll		Component (Conditions, 64-bi		ProgramFiles64Folder\Mozilla Firefox\api-ms-win-core-synch-		
< Permissions			Component (Conditions, 64-bi		ProgramFiles64Folder\Mozilla Firefox\api-ms-win-core-timezc		
🚍 Media settings			Component (Conditions, 64-bi		ProgramFiles64Folder\Mozilla Firefox\api-ms-win-crt-conio-I1		
û Digital signature	api_ms_win_crt_convert_l1_1_0.dll		Component (Conditions, 64-bi		ProgramFiles64Folder\Mozilla Firefox\api-ms-win-crt-convert-		
	api_ms_win_crt_environment_l1_1_0.dll	New feature	tions, 64-bi		ProgramFiles64Folde	r\Mozilla Firefox\api-ms-win-crt-e	environr
	api_ms_win_crt_filesystem_11_1_0.dll	New compone	ot	itions, 64-bi	ProgramFiles64Folde	r\Mozilla Firefox\api-ms-win-crt-f	ilesyste
	api_ms_win_crt_heap_l1_1_0.dll	Export to Merc		itions, 64-bi	-	r\Mozilla Firefox\api-ms-win-crt-ł	neap-I1-
	api_ms_win_crt_locale_11_1_0.dll	Export to Merg	e Module	itions, 64-bi		r\Mozilla Firefox\api-ms-win-crt-l	ocale-I1
		Properties	F2	itions, 64-bi	-	r\Mozilla Firefox\api-ms-win-crt-r	
	Api_ms_win_crt_multibyte_l1_1_0.dll     Move to			itions, 64-bi	-	r\Mozilla Firefox\api-ms-win-crt-r	
	api_ms_win_crt_private_l1_1_0.dll	Remove	Del		-	r\Mozilla Firefox\api-ms-win-crt-p	
	win_crt_process_I1_1_0.dll		nent table tions, 64-bi				
					ProgramFiles64Folder\Mozilla Firefox\api-ms-win-crt-runtime		





PACE Suite 5.5

## 3 Release History

- PACE Suite 5.4
- PACE Suite 5.3
- PACE Suite 5.2
- PACE Suite 5.1
- PACE Suite 5.0
- PACE Suite 4.7
- PACE Suite 4.6
- PACE Suite 4.5
- PACE Suite 4.4
- PACE Suite 4.3
- PACE Suite 4.2
- PACE Suite 4.1
- PACE Suite 4.0
- <u>PACE Suite 3.5.5</u>
- PACE Suite 3.5
- PACE Suite 3.4.2
- <u>PACE Suite 3.4.1</u>
- PACE Suite 3.4
- <u>PACE Suite 3.3 3.3.1</u>



