InstallAware X2

Reviewer's Guide

December 2014

InstallAware

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Overview

Introduction

Thank you for your interest in reviewing Install**Aware** X2, the cutting-edge software installation authoring tool. This guide will give you an overview of some key benefits that are available only with Install**Aware**.

Product Description

Install**Aware** X2 is the fastest and most scalable way to deliver ultra-rich, ultra-fast Windows installations. Dramatically reduce coding time and create installers tens of times faster with MSIcode based development and a fully visual two-way RAD IDE. Completely eliminate the need for Windows Installer training, save on bandwidth and support costs, and build smart installers which adapt to their environment at runtime.

Contact Information

We are here to support you throughout your evaluation period – and beyond. Please do not hesitate to contact us anytime.

Technical Assistance: support@installaware.com
Sales Inquiries: sales@installaware.com

InstallAware Highlights

New and Interesting Features of InstallAware X2

- **InstantInstall Acceleration –** Install**Aware** X2 is the fastest installer for Windows. New InstantInstall technology powered by Install**Aware** X2's Native Code Setup Engine exponentially reduces installation times when compared to every other Windows Installer.

- **64 bit Compression** – Reduce download sizes a further 30% on top of their already optimal sizes when compared to previous Install**Aware** versions. Achieve actual compression savings of up to 90% on all your application files and data.

- **Windows 10 Eco System** – Install**Aware** X2 includes built-in application runtimes and technology support for the entire Windows 10 Eco System, including redistributables for .NET Framework 4.6, SQL Server Express 2014, the Visual C++ 14 runtime, IIS Express, Crystal Reports, and more.

- **Visual Studio Integration** – Install**Aware** X2 integrates with Visual Studio versions 2015, 2013, 2012, 2010, 2008, 2005, and 2003; seamlessly creating and building setups (and App-V application virtualization packages) for all your solutions right within the Visual Studio IDE.

- **Team Foundation Server Integration** – The Install**Aware** X2 IDE is fully integrated with Microsoft Team Foundation Server versions 2013, 2012, and 2010. Check-In and Check-Out setup solutions with a single click in Install**Aware**, collaborate on your setup solutions with local or globally distributed teams.

- **Sliding and Fading Wizard Animations –** Install**Aware** X2 is the only software installer featuring smooth transition effects between installation wizard pages, helping you make a lasting positive first impression with your app-savvy end-users.

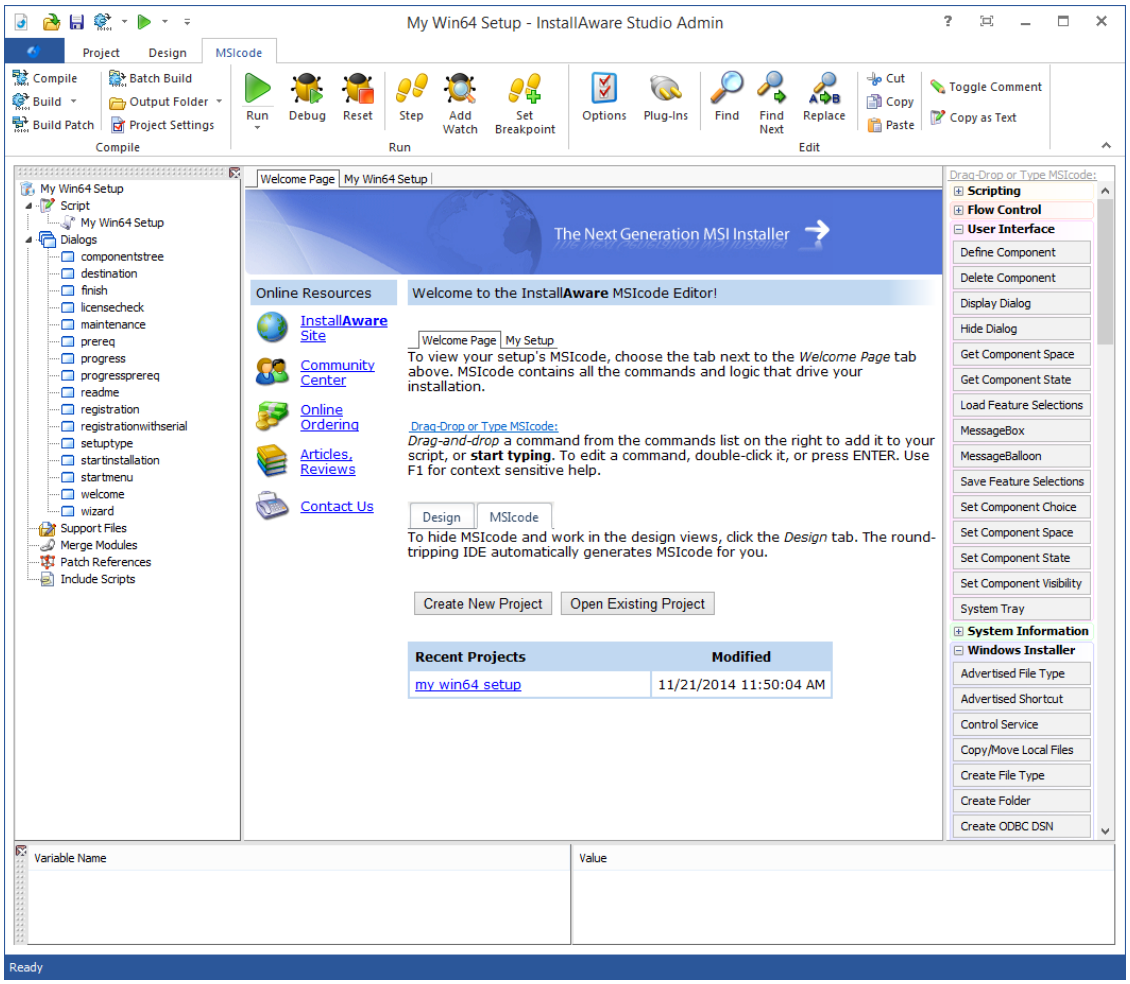
- **Application Pinning** – Install**Aware** X2 is the only Windows Installer with automatic, programmatic pinning of your applications to the new Windows 10 Start Menu (in the live tiles section), or the Windows 8.1 Start Screen – something Microsoft claims to have made impossible. Install**Aware** works hard to give you every opportunity to make your product shine.

Unique Features and Key Benefits for Developers

- Built on an excellent abstraction of Windows Installer called MSIcode. MSIcode is a human readable, conditionally flowing setup script, similar to a batch file. Your MSIcode script is automatically compiled into a logo compliant MSI database at build time, eliminating all need for Windows Installer training and the need to understand its complex relational database structure.
- MSIcode is more than just another descriptive language for creating setup packages: it is a layer on top of Windows Installer which directly modifies Windows Installer's runtime behavior.
- No scripting engine is required or pre-installed at runtime. Setups you build run on all 32 bit and 64 bit platforms, from the first release of Windows XP to the latest Windows 10 Server 64 bit – all with the same setup binary.
- Your MSIcode script "magically branches" according to your underlying scripted logic at runtime. You may even create/edit/delete your setup features at runtime, based on system conditions or online live license authentication. This helps you build and maintain a single installer (and a single setup project) for all of your product editions, languages, and features.
- Securely download optional application components using Partial Web Deployment. Segment your setup files into multiple online and offline Web Media Blocks. Optional Web Media Blocks are downloaded only if necessary. A partially web deployed setup does NOT mandate an Internet connection if online Web Media Blocks have not been selected for installation. Web Media Blocks may be shared by more than one setup and are highly compressed.
- One-Click Patching: No special patch project types are required to create patches. Point to the built binaries of your old setup versions to build patches in a single click. Use MSIcode scripting to customize patch behavior at runtime, and perform additional custom tasks.
- Deploy an unlimited number of web updates to your installed customer base. Filter patches using MSIcode to preserve your business logic.
- "Shell" to Third Party Setups from your installations. Capture and display native, interactive installation progress in your own setup dialogs – never launching external setup windows means your dependencies are always installed with the correct parameters and as an integral part of your master installation.
- Design stunning user interfaces with the 43 built-in dialog controls. Easily pass MSIcode variables between your setup dialogs and script. Capture and submit business intelligence directly within your (un)installations, without risking a click-away on web pages.
- In addition to runtime setup customization in MSIcode, use MSIcode Compiler Variables to conditionally include/exclude files and logic from your setups at build time.

InstallAware X2 Two-Way Integrated IDE

Install**Aware** X2 is the only way to deliver the fastest, most scalable, and most reliable Windows installations with the richest user interfaces. The two-way integrated IDE dramatically reduces coding time. The Design tab rapidly prototypes your setup, while the IDE seamlessly emits MSIcode in the background. Switch to the MSIcode tab and inject custom code exactly where needed. The visual and script parts of Install**Aware** projects are NOT disjoint, separate entities. Unlike other installation tools, the MSIcode script drives the entirety of your installation, has no hard coded elements, and is automatically emitted for you by the IDE as you use design views. This means that when you need to drop down to the code view after doing a lot of visual design work, everything you have done so far is immediately accessible and editable. The script is not a separate entity that is divorced from the actual files, registry keys, and other elements that comprise your installation.



InstallAware

What Types of Setups are Created with InstallAware X2?

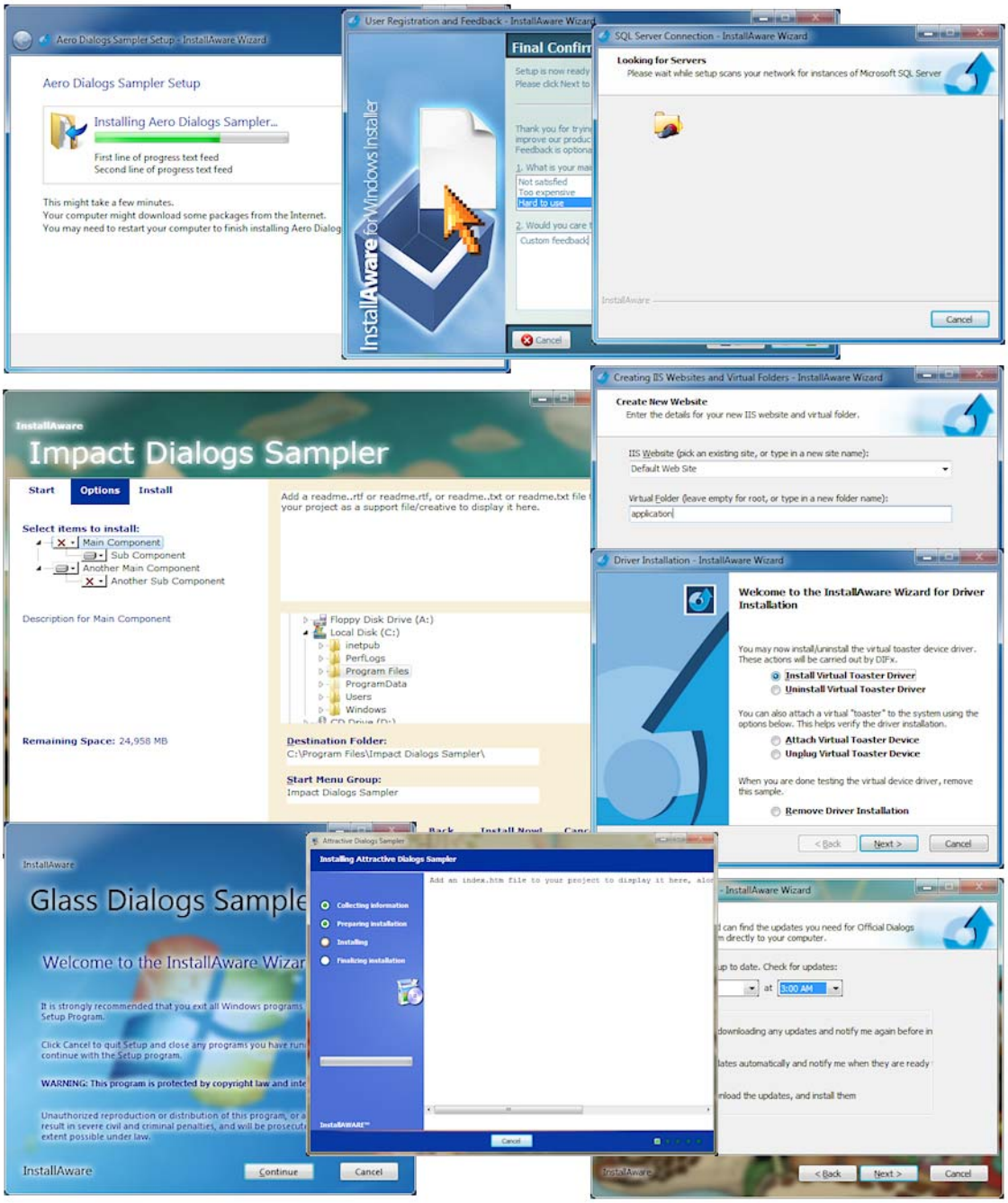
Mission-critical enterprise installs to complex desktop applications, repackaged, virtualized, or combined suite installations, driver installers, software development tools, and games; OEM, web, and database applications. Some hit commercial games like Crysis and compilers like Delphi, as well as OEM installations like those by Sony and BestBuy have been built using Install**Aware**.

Install**Aware** X2 unlocks the potential of the developer's imagination and allows them to focus on the solution without having to worry about the underlying confines and limitations of Windows Installer. Install**Aware** saves developers countless hours of Windows Installer training, and especially the frustration of having to work around the straitjacket setup authoring experience that is found with other environments.

The Native Code Setup Engine 3.0 in Install**Aware** X2 exponentially increases the runtime capabilities of setups, completely side-stepping all limitations of Windows Installer, whilst not requiring platform exclusivity – setups may even switch between Native Code and Windows Installer setup engines at runtime, as many times as needed. Install**Aware**'s Native Engine supports extra-long file system paths, reads from and writes to protected file system and registry locations while retaining their security settings, runs in Windows Safe Mode where Windows Installer is disabled, performs setups an order of magnitude faster than Windows Installer itself, and even supports multiple simultaneous installations (which is, again, something Windows Installer itself is not capable of doing).

Because Install**Aware** generates standalone Windows executables without large and cumbersome runtime dependencies like Java or .NET, or script engines like InstallScript that need to be pre-installed (often failing with cryptic error messages), Install**Aware** setups always work on the largest possible number of target systems, out of the box, making sure your relationship with your customers starts off on the right footing. Now with the new wizard transition special effects in Install**Aware** X2, your setups are as visually pleasing as they are solid under the hood.

Setups may even be built on the cloud with Install**Aware** X2, serving custom setup solutions from, for example, ASP.NET websites. Any built Install**Aware** X2 setup may "self-replicate" itself across an entire Active Directory network – without even requiring any client or server software; enabling the construction of private or public clouds, and facilitating the instant delivery of any number of third-party nested EXE/MSI based setups as part of the master, self-replicating Install**Aware** installer. Having to spend tens of hours repackaging EXE installers just to convert them to an MSI format is now a thing of the past.



InstallAware

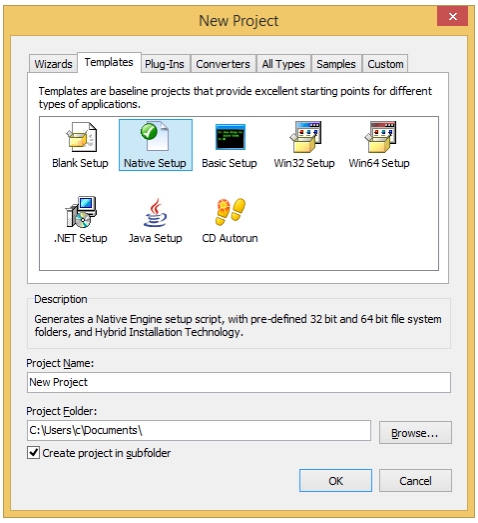
Setup Development

After installing Install**Aware**, you will have the opportunity to decide what type of development you want to do.

- Setup repackaging based on system snapshots or direct capture
- Direct import of Windows Installer setups and merge modules
- Direct import of InstallShield, Wise, and other popular setup projects
- Highly custom setups started with a completely empty project
- CD/DVD/Blu-Ray Autorun menus
- Setups that use the Install**Aware** Native Code Setup Engine 3.0
- Setups that use the Windows Installer Setup Engine
- Setups that use both engines with HIT (Hybrid Installation Technology)
- Win32 and Win64 application installers
- .NET and Java application installers, with optional download and installation of their frameworks
- Web update clients
- Multiple instance setups (installing more than one copy of the same application simultaneously)
- Obtaining end-user feedback, collecting and submitting business intelligence
- Validating serial numbers, both offline and online
- Localized setups
- Database installations that configure a named database instance and run a SQL script against it
- Web server installations that configure a web server and create websites/virtual folders on it
- Driver installations
- Setups which optionally download features from the Internet while NOT mandating a connection
- Setups which can dynamically define and delete setup features at runtime
- Binary byte level patches
- Virtualized applications
- Custom plug-ins which enhance the existing capabilities of the Install**Aware** MSIcode language
- Calling functions from any system DLL or custom DLL directly
- Bootstrappers which seamlessly install third party application frameworks and runtimes
- Checking for and removing old product versions, including those installed without Install**Aware**
- Checking for and installing technology frameworks, runtimes, and database/web servers
- Delivering dynamically updated product bundle offers with your application
- And many others

Projects in InstallAware X2

Once you start Install**Aware** X2, the first thing you will need to do is create a project.



This can be accomplished by clicking the Install**Aware** button and clicking the *New Project* | *Other* menu item. This is the setup solution gallery and it displays all of the different types of solutions that can be created. If you are not reviewing the Studio Admin edition with all features installed, some solutions may not be available – just run Install**Aware** setup again and choose to do a full install of Studio Admin.

- **Wizards** – A list of standard wizards which guide you step by through setup project creation, including wizards which let you convert pre-existing setups (without access to their source codes).
- **Templates** – Install**Aware** projects which can be fleshed out in the IDE, including Win32, Win64, .NET, and Java application support; as well as highly custom applications such as Autorun apps.
- **Plug-Ins** – Create plug-ins that integrate with Install**Aware**'s MSIcode script, including rendering a custom line of script and participating in the setup build process. You may also use managed languages such as .NET to create InstallAware MSIcode plug-ins.
- **Converters** – Upgrade existing setups (for which you do have the source codes) into ready to build Install**Aware** projects in a single click.
- **Samples** – Various sample projects illustrating useful Install**Aware** programming concepts.
- **Custom** – Promote any existing Install**Aware** project into a generic template, maximizing code re-use and enforcing your organization's installer standards. Inherit new projects from your self-made setup templates.

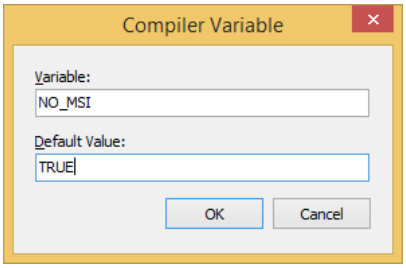
Native Code Setups in InstallAware X2

If you have previously used Install**Aware**, you will be pleased that all it takes is a single line of code to upgrade your existing projects to use the Native Code Setup Engine 3.0 instead of Windows Installer:

```
1
2   Comment: Enable Native Engine
3   Set Variable NATIVE_ENGINE to TRUE
4
5   Comment: Enable Windows Installer Engine
6   Set Variable NATIVE_ENGINE to FALSE
7
```

As in the code example above, changing the value of the **NATIVE_ENGINE** variable between **TRUE** and **FALSE** will toggle any installation between the Native Code 3.0 and Windows Installer setup engines. This process may be repeated as many times as required in your installation.

Install**Aware** does not lock you into any particular setup authoring platform and gives you the power of choosing whichever setup engine is best suited for your requirements. Best of all, your existing scripts – all of them – are upgraded to work with the Native Engine 3.0 in just one line of code!

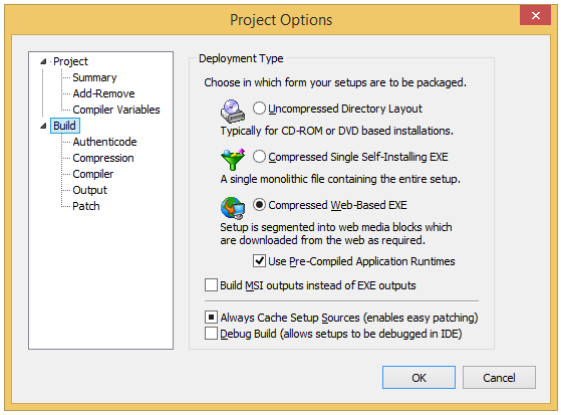


If you are sure that you will not be using the Windows Installer engine at all, you may prefer to skip building MSI files as part of your build process. This will reduce the size of your setup payload, and speed up the build process significantly. Just set the **NO_MSI** compiler variable to **TRUE**.

Please see the help file topics *Pre-Defined Compiler Variables* and *Pre-Defined Variables* for many additional build time and runtime tweaks that can be applied to your setups for increasing performance and reliability. Remember, nothing is hard-coded in Install**Aware**!

Deploying Setups

InstallAware offers a variety of build modes for your existing projects, all based on the same source files. These settings are accessible in the *Project Options* window.



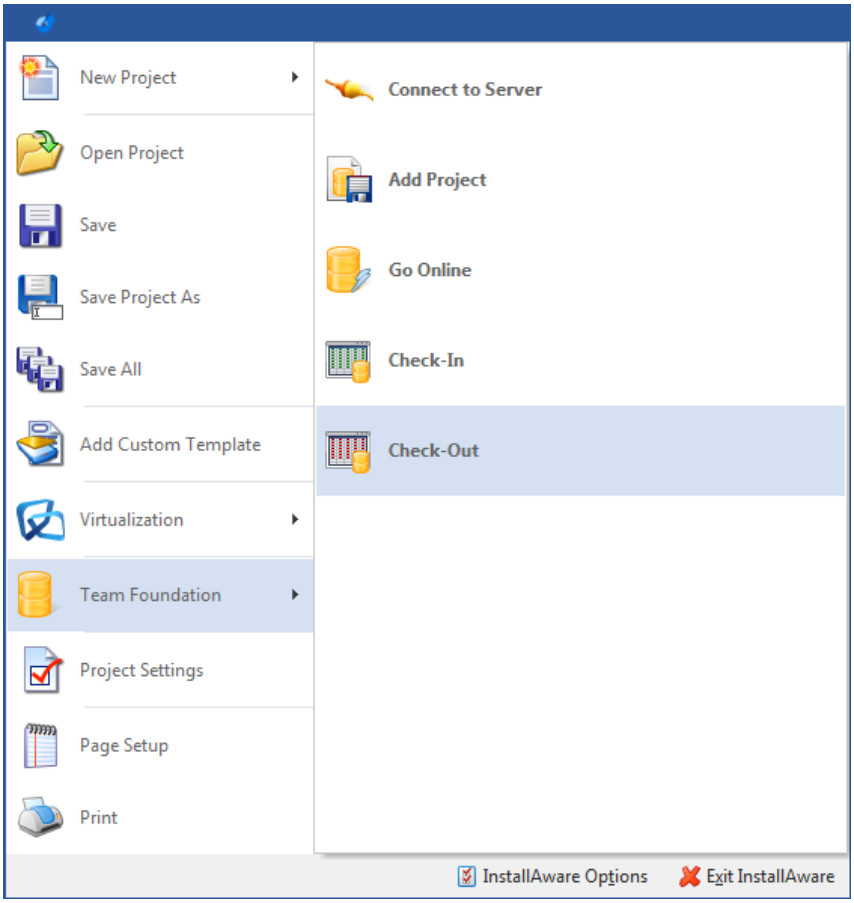
- **Uncompressed Directory Layout** is the fastest build option and ideal to use when you are coding and debugging your setups. It is also the best build mode to use if you will be distributing your setups on optical media or thumb drives, or other medium which can contain multiple folders.
- **Compressed Single Self-Installing EXE** takes the uncompressed output and packs it all inside a single, self-extracting executable. This is ideal for cases when a single monolithic file is required. All files are compressed to the smallest possible size.
- **Compressed Web Based EXE** is ideal for online distribution. The output is a compressed self-extracting executable, as well as several 7zip files which are the web media blocks containing your optional setup features. Unlike other web deployment schemes, the 7zip files are not mandatory and will be downloaded only if they are selected by the end-user for installation (and have not been previously downloaded). You get to precisely choose which source files are placed inside web media blocks, and which go inside the self-extracting "offline" setup executable.
- **Patch** is used to build your existing setup project as a patch, without having to create a new patch project type. Through the use of compiler variables, parts of your MSIcode script are conditionally included or excluded when building setups as patches. This helps you inject additional business and setup logic to the patch process whilst avoiding the need to create a new patch project.
- **Build MSI outputs instead of EXE outputs** converts any of the above EXE outputs into a Group Policy/Active Directory compatible MSI file, even when your original setup is not based on Windows Installer technology and uses the Native Engine instead.

Additional Advanced Tools in InstallAware

InstallAware X2 includes many features beyond those covered in this Reviewer's Guide. There are a few that deserve special mention, just to remind you, the reviewer, of the power of these tools and the value they add to the InstallAware setup authoring environment.

- **Team Foundation Server Integration** – The InstallAware IDE is fully integrated with Team Foundation Server, versions 2010, 2012, and 2013.

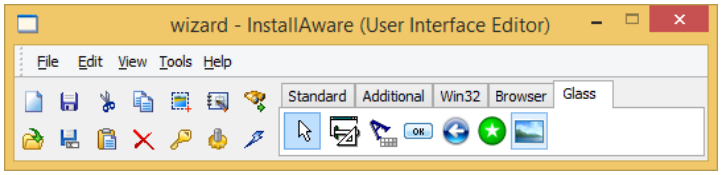
  Setup solutions may be added to TFS, checked-in, checked-out, all with a single click – enabling collaboration with teams, local or global. If the TFS server associated with a setup solution cannot be reliably contacted, the InstallAware IDE will automatically take the setup solution offline temporarily, letting your work continue unimpeded. Any pending changes are automatically synchronized the next time a TFS connection is available.



- **Dialog Designer** – Just as nothing has been hard-coded in InstallAware, setup dialogs too are fully editable and customizable. While InstallAware ships with 18 pre-built themes and even more custom made dialogs in sample projects, nothing prevents you from creating highly customized, richly branded user interfaces that offer your customers a compelling installation experience.

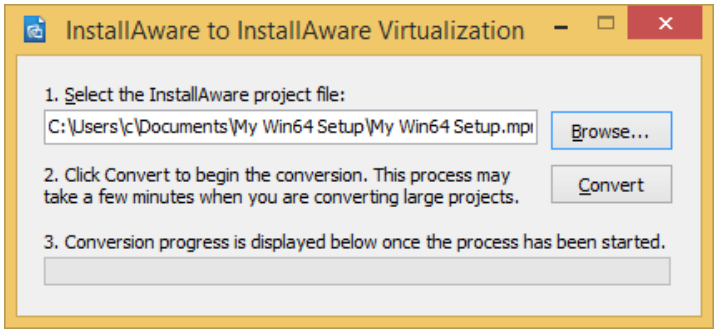
  As illustrated in the *Impact* theme, you may even combine controls from multiple dialogs inside a single dialog to provide a streamlined workflow for your customers, just like Visual Studio's own setup routine! And remember, since InstallAware captures the native installation progress of setups you spawn from your master setup, the progress feedback of these third party installations will be displayed interactively, inside the setup dialogs that you have designed!

  With InstallAware X2, you may also load dialog bitmaps programmatically at runtime to re-brand your installation on end-user systems without rebuilding anything! Custom dialogs are also a great place to collect and submit user data directly within your setup user interface, without ever launching external web browsers and risking the possibility of a click-away.

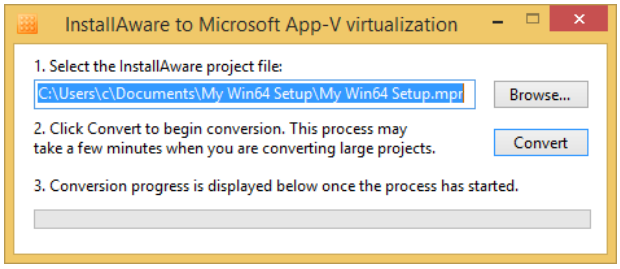


- **Export to InstallAware Virtualization** – It takes a single click in this tool to convert any existing InstallAware setup project to an InstallAware Virtualization project.

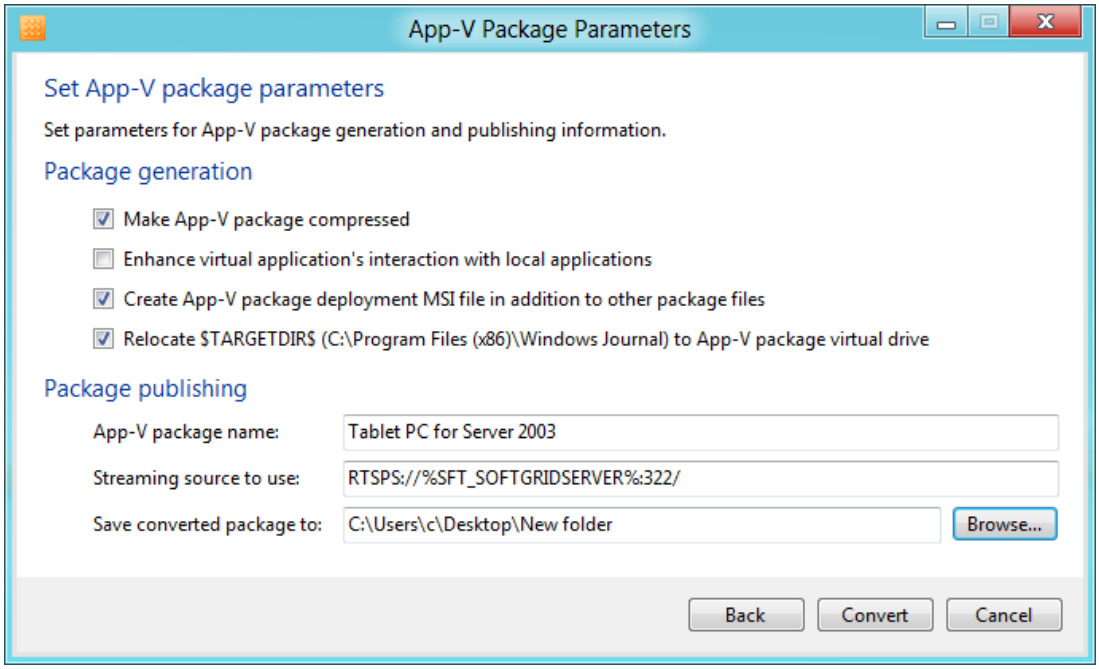
  Explore how well your applications run virtualized – without being pre-installed or even extracted to a temporary folder – using this tool.



- **App-V Builder –** InstallAware's App-V Builder produces an App-V Application Virtualization package out of any existing InstallAware setup project. There's absolutely nothing new to learn, and no need for costly sequencing operations.

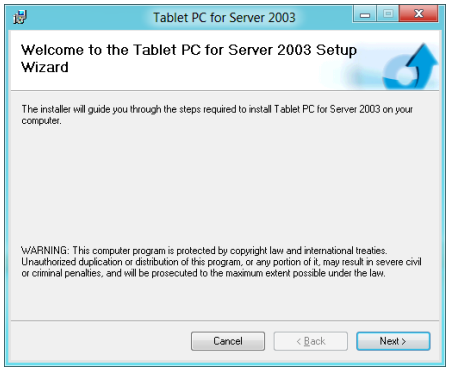


After selecting the InstallAware project to build as an App-V package, choose your entry point applications and other package creation options.

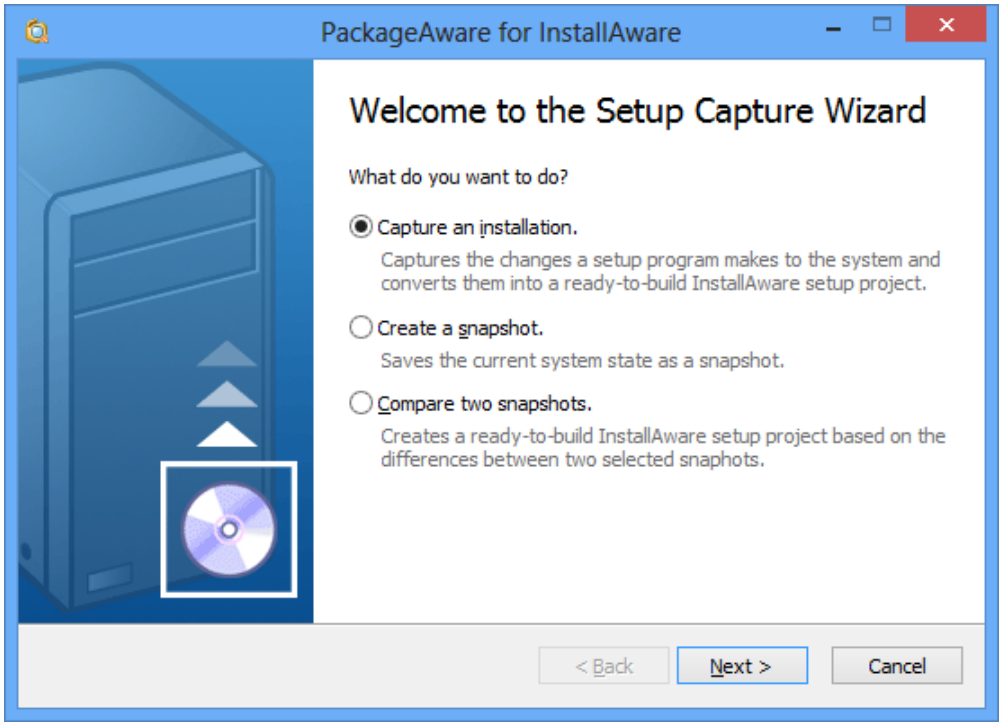


InstallAware's unique Hybrid App-V Technology ensures that your packages may contain both 32 bit and 64 bit components, and run successfully on clients of both bitnesses.

You may also create an MSI file to push your App-V package using Active Directory/Group Policy, or other forms of unattended deployment.



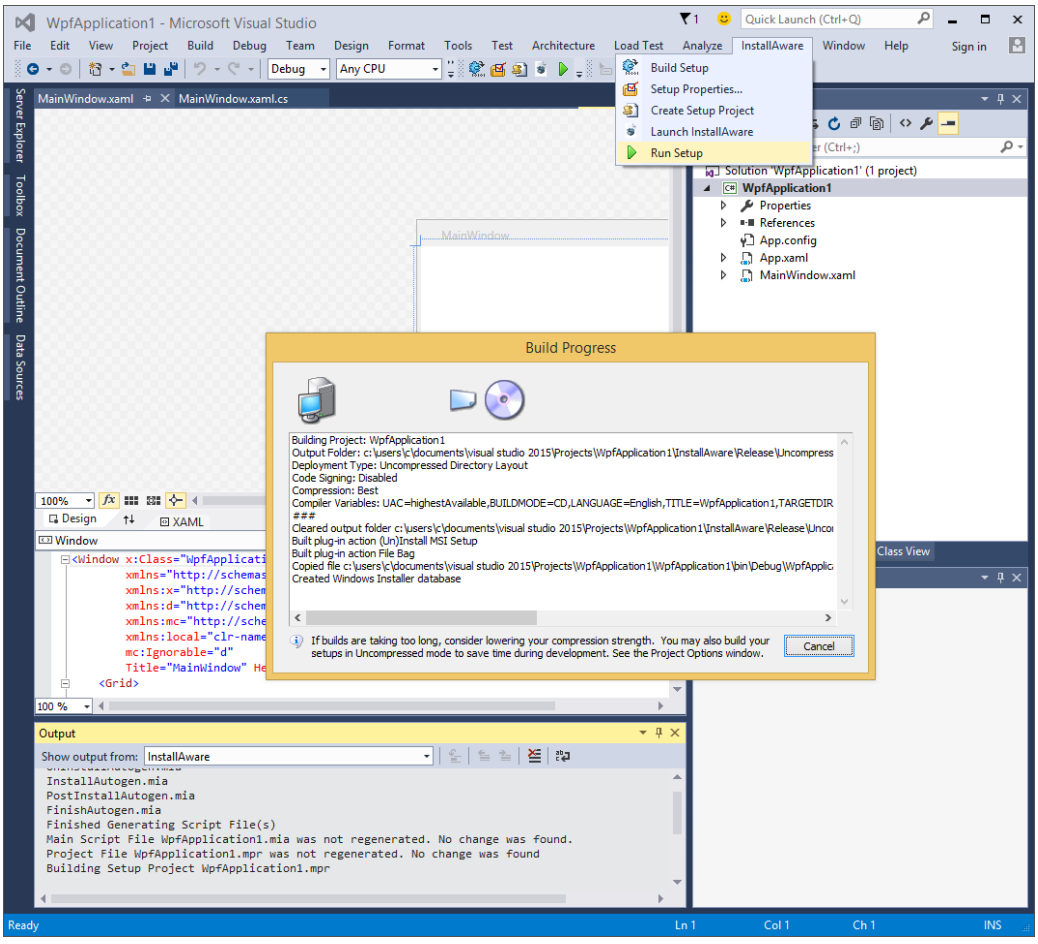
- **PackageAware** – Also included in Install**Aware** X2 is the industry's fastest setup capture utility. Now optimized with proprietary, driver-less direct capture technologies, Package**Aware** performs both immediate captures, and snapshot based system scans. Save and compare any arbitrary two system snapshots to obtain the delta on any type of system change, in addition to software installations. Capture settings may also be saved and reused in frequently used profiles.



- **Visual Studio Integration** – Install**Aware** X2 integrates with Microsoft Visual Studio versions 2015, 2013, 2012, 2010, 2008, 2005, and 2003.

  A single click on the Install**Aware** toolbar or menu within Visual Studio instantly builds your active solution as a ready-to-install setup, together with its host of dependencies, such as Microsoft .NET Framework 4.6. An Install**Aware** setup solution is also automatically created as part of this process, which you may further customize either inside Install**Aware**'s Visual Studio Add-In, or using the full-fledged Install**Aware** IDE.

  As your Visual Studio solution evolves, Install**Aware**'s Visual Studio Add-In keeps your setup solution in-sync, while retaining any customizations you may have made to your setup solution. Virtualizing any Visual Studio solution is also just one-click away – thanks to Install**Aware**'s App-V Builder which we already covered above.



Basic Introduction

Keep in mind that this guide barely scratches the surface of what is possible with InstallAware. Please refer to the following additional resources that help you get the most out of the product:

MSIcode Scripting:

http://www.installaware.com/msicode_scripting_technology.pdf

Partial Web Deployment (Web Media Blocks):

http://www.installaware.com/webaware_installation_technology.pdf

Building Custom Application Runtimes:

http://www.installaware.com/installaware_extending_application_runtimes_view.pdf

Patching:

http://www.installaware.com/installaware_patching.pdf

Web Updates:

http://www.installaware.com/installaware_web_updates.pdf

Frequently Asked Questions:

http://www.installaware.com/installaware_faq.ppt

InstallAware Edition Comparison Matrix:

http://www.installaware.com/right-edition.htm

Community Forums:

http://www.installaware.com/forum/

Procurement:

http://www.installaware.com/buydirect.asp

InstallAware Blog:

http://www.installaware.com/blog/

About InstallAware Software

Install**Aware** Software, founded in 2003, is the leading Cloud Infrastructure Company with its laser sharp focus on state-of-the-art software installations and bullet-proof enterprise deployments. Install**Aware** has been named a "Leader of the Software Development Industry" by SD Times two years in a row (2013 and 2012). Install**Aware** X2 is available in a free edition for all Visual Studio users and paid editions with prices starting at $329. For a fully functional 30 day trial and more information, visit www.installaware.com.

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