InstallAware

CodeGear RAD Studio 2007 from Borland

Application:
RAD Studio 2007 family of IDE's – including Delphi, C++ Builder, and Delphi .NET

Installer of Choice:
InstallAware 8 for Windows Installer

Challenges:
- Shipping a single installer for 3 IDEs, 4 languages, 4 different product editions
- Providing targeted web updates for different product editions
- Seamlessly installing technology frameworks and SDKs
- Enabling ESD with software delivery over the web

Results:
- A single, encrypted install image for both online and DVD distribution
- A single build and patch process for all languages and product editions
- Runtime intelligence in the installer covering upgrades, patches, and licensing

Introduction

CodeGear RAD Studio 2007 is Borland's latest software development environment, continuing 25 years of Borland's market leadership. RAD Studio 2007 includes programming languages such as Delphi for Win32, used by nearly 5 million developers worldwide; as well as Delphi for the Microsoft .NET Framework and C++ Builder.

A Unified Install Image

CodeGear built a unified RAD Studio 2007 install image containing all product editions, languages, and technology runtimes. This single install image is distributed both online and on a physical installation disc.

During online installation, the InstallAware setup dynamically downloads only the files that are required, saving CodeGear and end-users valuable time and bandwidth. During an edition upgrade, the end-user simply starts setup in maintenance mode, enters the new serial number, and InstallAware automatically upgrades the existing installation – downloading and installing only the new files from multiple redundant servers distributed across the globe.

Because setup files are encrypted, the physical installation disc of RAD Studio 2007 can ship with files for all product configurations. This enables users to trial the product from a magazine's companion disc, and then simply activate the additional bits when the correct serial key is entered – offering the ultimate convenience for not only end-users, who need not wait for physical media shipment; but also CodeGear, who press a single universal install disc.

Simplified Scripting with Automation

CodeGear uses a common product delivery database containing file and other setting information for product features. This central repository is accessible by independent developers, allowing them to instantly define the software components for the feature sets they are responsible for. CodeGear interfaced their product delivery database with InstallAware's automation interface, dynamically emitting setup scripts for the product features. Therefore, developers don't even need to launch the InstallAware IDE to bring the product installation image up to date. InstallAware automation always obtains the latest data from the central repository and emits include scripts for the master install to consume.

Runtime Business Intelligence

CodeGear's main installation script drives the logic of the overall installation process, and calls the include scripts for the product features as necessary. All of these scripts are powered by InstallAware's proprietary runtime branching MSIcode technology, enabling intelligent decision making at install time. Features that end-users are authorized to install are dynamically defined by MSIcode. For instance, in a trial installation, end-users do not even see parts of the product that are reserved for paid editions. This ends the copy-and-clone nightmare for setup developers, who no longer need to create and work with multiple copies of highly similar setup projects to accommodate variances in product releases.

"Electronic software delivery (ESD) plays a larger role in the way we deliver our products today. InstallAware empowers our new ESD functionality in the Delphi and C++Builder products, increasing Internet delivery flexibility and performance, while providing customers instant access to features based on electronic software purchases. We have dramatically enhanced the user experience for both trial evaluations and electronic purchases – made as simple and flexible as possible using InstallAware."

– Michael Swindell, Vice President of Products, CodeGear

InstallAware

Certified for Vista, Windows Installer Standards Compliant

At build time, InstallAware compiles all of the MSIcode scripts into an automatically Vista Certified logo-compliant, Windows Installer setup package (an MSI file). While the Windows Installer specification does not ordinarily permit runtime branching and decision making, InstallAware's setup engine embraces and extends Windows Installer, permitting the integration of business intelligence into the setup process, and reducing the integration workload – while remaining fully standards compliant and supporting Group Policy/Active Directory unattended deployment.

Seamless Third Party Setup Integration

RAD Studio 2007 has a complex set of requirements for application pre-requisites, such as various versions of the Microsoft .NET Framework, the .NET Framework SDK, among others. Since the RAD Studio 2007 install supports multiple languages (English, French, German and Japanese), the correct versions of each of these components are required. InstallAware seamlessly detects and installs each of these third party components (dynamically downloading them as required, if physical media is not available). The RAD Studio 2007 setup doesn't even launch separate windows requiring confirmation/feedback from end-users. The live progress display of the third party setups being run are captured and displayed natively inside the RAD Studio 2007 setup wizard, improving end-user confidence and reducing support costs.

"InstallAware 8 has eliminated the need for us to build 40+ separate setup packages, consolidating everything into a single setup project and reducing our integration costs tenfold – while providing full compliance with Windows Installer standards and producing a Vista Certified native MSI package."

– Allen Bauer, Chief Scientist, CodeGear

Superior Compression

Each of these third party setups are re-compressed using InstallAware's superior LZMA/BCJ2 compression. Due to the law of entropy in data compression, data that has been pre-compressed cannot be recompressed, even if the recompressing algorithm is stronger than the original. InstallAware also handles this case by seamlessly expanding and then repacking third party setups with stored (zero) compression. This process completely preserves data integrity, avoiding the burden of setup re-packaging; while actually reducing the already-compressed size of the native third party setups by as much as 67% (.NET Framework 1.1 with Service Pack 1). Naturally, these space savings translate to fewer physical installation discs (only one in the case of the RAD Studio 2007 install), as well as saving bandwidth costs for both CodeGear and end-users while setup is running from the web.

One-Click Binary Patching

When it's time to issue software updates, InstallAware automatically builds binary patches which contain only the delta between the original release and the latest version. These patches are also empowered with MSIcode scripting, so they are again intelligent at runtime, performing complex operations based on the state of the end-user system. A single patch may target one or more product versions, and is built from the same setup project sources. A separate patch project is never created at any time – InstallAware handles all Windows Installer patch file (MSP) creation details internally. Clicking the "Build Patch" button after referencing the old version setup.exe files is all that is required.

Customizable, On-Demand Web Updates

CodeGear customized InstallAware's built-in web update client, which ships with full MSIcode sources and editable dialogs. Updates may be invoked on-demand from RAD Studio 2007, or on a pre-set schedule, mimicking the behavior of Windows Update. Business intelligence is also embedded into the update client, which filters available updates by product edition and language. There are absolutely no runtime fees or restrictions on the number of updates which may be deployed. InstallAware also does not install a web update service on end-user systems, reducing the attack surface on the target machine while conserving system resources.