InstallFree

InstallFree Virtual Internet Explorer

Designed for Users. **Built for IT.**

InstallFree Overview

InstallFree is a leading provider of Desktop Application Virtualization and Management solutions that simplify application delivery, reduce IT costs and increase reliability and end-user productivity.

The Challenges with Internet Explorer

Internet Explorer (IE) is different from other web browsers in the market in that it is tightly coupled with the Windows Operating System. It is currently the most widely used web browser for Windows and a top choice for running web-based applications in most organizations. Due to the popularity and longevity of older versions of Windows such as Windows 2000 and Windows XP, many organizations now find themselves using applications that rely heavily on older versions of Internet Explorer, especially Internet Explorer 6 used along with plug-ins that are incompatible with more recent versions of the browser. These dependencies often make it difficult for companies to migrate to newer versions of IE because of the expected impact on their business and the cost and time needed to re-engineer their applications. What makes this an even bigger problem for IT is that these dependencies conflict with critical IT initiatives, such as:

- **Migration to newer versions of Windows** – Internet Explorer 6 is not supported on Windows Vista or Windows 7. Internet Explorer 7 is not support on Windows 7. Therefore, organizations that are migrating away from XP or Vista (or older operating systems) must upgrade IE in the process. This means that any dependency on IE6 or IE7 will effectively stop an OS migration.

- **Security** – due to the tight coupling between IE and the OS, IE security issues quickly become overall PC security issues. Therefore, it is in the best interest of IT to always upgrade to the latest version of IE, even outside of an overall OS migration initiative.

InstallFree Application Virtualization

InstallFree's Application Virtualization technology enables IT to modularize and completely isolate desktop applications from the underlying operating system. Unlike other technologies in the market today, InstallFree's unique approach to application virtualization supports not only standard desktop applications, but also web-based applications that are dependent on specific versions of Internet Explorer and/or embedded plug-ins (e.g. Java and Flash). This approach provides many important benefits to IT that are further discussed below.

Accelerating OS Migrations

There are many documented cases of Windows Vista or Windows 7 migrations being greatly delayed or even coming to a complete halt due to compatibility issues with web-based applications. A recent example of this includes an article describing the challenges faced by Intel in their ongoing Windows 7 migration project:

> *"Intel has also delayed deployment of Internet Explorer 7 and IE 8, as they are not compatible with specific add-ons and applications written for Internet Explorer 6. Many applications like some Office add-ons and versions of Java are written to run with IE 6, and "mitigation of these issues must be addressed."*

PCWorld Article: Intel Faces Challenges in Windows 7 Migration, Agam Shah, 2/25/2010.
http://www.pcworld.com/businesscenter/article/190240/intel_faces_challenges_in_windows_7_migration.html

With InstallFree, every virtual application has access to its own private, fully virtualized and isolated instance of Internet Explorer, ensuring that the application will be able to function properly irrespective of the underlying Windows OS or the natively installed version of IE. As a result, InstallFree Virtual Applications are fully portable between different versions of Windows, even when the applications themselves are not compatible with newer version of the OS or the browser.

Improving Security

Because of the tight integration between IE and the underlying OS, browser security issues quickly become overall PC security issues. In fact, according to the SANS Institute, applications vulnerabilities now exceed OS vulnerabilities:

> *"During the last few years, the number of vulnerabilities being discovered in applications is far greater than the number of vulnerabilities discovered in operating systems. As a result, more exploitation attempts are recorded on application programs. The most "popular" applications for exploitation tend to change over time since the rationale for targeting a particular application often depends on factors like prevalence or the inability to effectively patch. Due to the current trend of converting trusted web sites into malicious servers, browsers and client-side applications that can be invoked by browsers seem to be consistently targeted."*

SANS: The Top Cyber Security Risks, September 2009.
http://www.sans.org/top-cyber-security-risks/

While this presents a strong case for IT to always upgrade to the latest version of IE and to quickly deploy new security patches, such updates can interfere with the operation of web-based applications and negatively impact the business. In addition, every major update to the browser (and even some service pack upgrades) will necessitate re-testing of applications that are dependent on the browser to ensure that the update did not "break" the application.

InstallFree solves this problem by enabling IT to upgrade and patch the natively installed instance of Internet Explorer while allowing virtualized applications to continue using their private, isolated instance of IE for compatibility.

To minimize security issues with the virtual instances of IE, InstallFree automatically enables the following security features for each virtual application:

- **User Mode Execution** – InstallFree Virtual Applications are only allowed to execute in User Mode and are prevented from making changes to the underlying OS or the core application configuration, even if users have administrative privileges on their PCs. As a result, any malware downloaded into a virtual instance of IE would not have sufficient rights to execute on the client and further propagate within the organization.

- **Separate Management of User Changes** – Any changes made to an application configuration during a user session are saved separately from the OS or the core application configuration. This is called the UserData file. As a result, if an application has been infected by malware, all IT needs to do is delete the UserData file for the particular application and user. The application is then immediately restored to its original pristine configuration.

- **"Just Enough Browser"** – the natively installed Internet Explorer is tightly coupled with the OS and uses a variety of OS and other application resources (to view this list, open your Internet Explorer, go to Tools and select Manage add-ons). The strong coupling and the frequent use of external components are key reasons behind many application vulnerability issues. The InstallFree virtual Internet Explorer assigned to a virtual application is completely decoupled from the OS and was designed to include only the core components required by the application, minimizing security issues resulting from external component vulnerabilities.

Reducing Application Management Cost

Each time Internet Explorer or major plug-ins (e.g. Java or Flash) are updated, software applications that rely on Internet Explorer or such plug-ins have to go through regression tests to ensure their operation. This is a time consuming, resource intensive and expensive process for IT.

Because InstallFree enables IT to virtualize applications with their own private instances of IE and plug-ins, application configurations can be effectively "frozen" despite changes that may occur to the natively installed instance of IE and its plug-ins. As a result, IT can ensure that the natively installed versions are up to date while maintaining fully compatible virtualized environments for their applications, thereby dramatically reducing integration testing requirements.

In addition, InstallFree enables IT to modularize applications by separately packaging application components such as dependencies, plug-ins and updates. This further streamlines the management process as updates can be granularly applied without the need to completely repackage the application.

Seamless User Experience

To make sure end-users continue to have a consistent experience with their PCs despite the presence of multiple virtual instances of IE, InstallFree enables IT to easily define application and URL redirection rules that will ensure that the right application and its dependencies will open using the right version of the browser. These rules are defined using the InstallFree Management Console and do not require any modifications to the application packages themselves. For example, if a user using Windows 7 and IE8 is trying to access the URL of a web-based application that requires IE6, the session will automatically be redirected to the virtual instance of IE6 assigned to the application. As a result, IT can move forward with migration and security initiatives while maintaining a seamless experience for end-users and eliminating the need for re-training.

Best Practices

Here are a few best practices to keep in mind when considering the implementation of application virtualization and IE virtualization:

- **What version of Internet Explorer should be virtualized?**
  InstallFree recommends that you always natively install the latest version of Internet Explorer and virtualize the version required by legacy applications. This way, you can always be current on the latest updates and security patches, can always migrate to the latest and greatest Windows OS and are assured of compatibility for your legacy applications.

- **What applications should be used with the virtual instance versus the native Internet Explorer?**
  InstallFree recommends the use of the latest, native Internet Explorer as the standard browser for all mainstream uses. Older versions of Internet Explorer should be used as virtual applications and only in conjunction with the applications that require older components / versions to operate properly.

- **How many virtual instances of Internet Explorer do I need?**
  InstallFree products were designed for maximum flexibility and allow assigning a specific version of Internet Explorer per virtual application or per URL (e.g. web-based application). The administrator can change the preferences for the automatic browser re-direction using the management console at any time, and without having to repackage the application or permanently bundle it with the virtual instance of Internet Explorer. The InstallFree virtual client dynamically binds the appropriate components together during runtime, eliminating the need for complicated packaging or scripting.

Summary

By enabling full virtualization of Internet Explorer, InstallFree can help organizations meet their IT objectives on time and on budget. InstallFree eliminates many of the key desktop application management problems faced by IT, including application conflicts, the costs of regression testing, version downgrades and OS “lock-in”.

For more information about our products and solutions -- including demonstration videos, data sheets and customer success stories -- or to test-drive our software, visit us at www.installfree.com.