



## The AVAware Repository

A New Home for AVAware System Files

### Introduction

The evolution of technology is an integral part of our everyday lives. In order to meet our ever demanding wants and needs, technology is always expanding and evolving. In the same way, **AVAware's** development team works tirelessly to ensure **AVAware** products meet and exceed the evolving requirements of our customers. This work also requires us to keep a watchful eye of new platforms and their capabilities to make sure the changes we make work together in a stable environment. Our work must not only conform to, but take advantage of this evolution of technology. Recent releases of new operating systems from Microsoft have drastically changed the landscape of how your information and data is handled. Changes to the Windows operating system have prompted some redesign of **AVAware** software so that the two can work harmoniously together. This partnership in technology has lead to great enhancements of our product offering, including our flagship product, **AVProject**.

### UAC: User Account Control

Operating system stability has always been a top priority for Microsoft. Throughout the years, Microsoft has tried different approaches to tackling the daunting task of making their operating systems full of features, yet stable enough to be used day to day, at home and in business. From Service Packs to patches, these priorities have paved the way for the latest batch of safe guards. While the concept of multiple user accounts on a single computer is not new, user interaction with the operating system's core files remains a subject of concern. Microsoft's latest method of addressing these account specific problems has been a sigh of relief for the end user, but has created new hoops that developers have had to jump through in order to comply with these measures. The most important task in dealing with multiple users is, of course, to protect core system files and user files and settings from individual user changes. Microsoft's User Account Control (UAC) focuses on this task.

The fundamentals of UAC were present in earlier versions of Windows, including Windows XP, though UAC was officially introduced in Microsoft Windows Vista. Because of the success in solving many stability and security issues, UAC was again utilized in Microsoft's latest operating system, Windows 7. UAC creates a barrier around sensitive files and folders that prevents any unsafe modifications from malicious software or changes made by a single user.



Before specific system changes can be made, UAC provides different levels of protection to allow or disallow these changes. From confirmation pop ups to blocking actions based on user rights, UAC creates a safety net for these types of changes so that disasters can be avoided. Although annoying at times, UAC forces the user to have permission, and to be accountable for changes made to the underlying operating system. Like users, trusted software developers such as **AVAware** must conform to UAC which has resulted in innovative new procedures to support current **AVAware** applications as well as future offerings.

## 64 Bit Computing

The never ending quest to have faster and more powerful computers forces constant changes to operating systems in order to support the muscle of the latest hardware. Not too long ago, a floppy disk at 1.44 mega bytes (Mb) was more than enough space for the average users' files. Now, there are USB drives that can be purchased at department stores with 1.4 million times the amount of space of a floppy disk. 64 bit computing has become more popular since it introduced the next level of computer performance and capacity for the consumer. Up until recently, 64 bit computing has been used solely for servers and super computers, however due to a push for faster mainstream computers, vendors, manufacturers and retailers have had to include 64 bit computing to their product line.

For the purposes of user-friendliness, Microsoft 64 bit operating systems have the ability to use both 64 and 32 bit applications. The reason for this is simple; virtually all Windows software has been written for 32 bit computing. To protect 64 bit applications from interaction and possible corruption from 32 bit applications, Microsoft Windows introduced a new Windows Program Files directory, specifically for 32-bit applications, separating them from 64 bit applications.

**AVAware** has been aware of the inevitable move to 64 bit computing for some time, and that a large percentage of our customers would purchase new computers running 64 bit operating systems. Having to handle 64 and 32 bit computing standards has left the average software company scrambling to release 64 bit compatible versions of their products - The latest release of the **AVAware Suite** is seamlessly compatible with both 32 bit and 64 bit systems, without the need for separate install files.

## The Virtual Store

In an effort to further protect system and program files, Microsoft, since Windows Vista, included an additional feature called The Virtual Store.

When a user modifies system files, the "real" files are left untouched while the modified files are copied to a special per-user area of the hard disk. The Virtual Store maintains these modifications on a separate layer so that the operating system is not affected for other users, minimizing the potential for missing or corrupt system files. The challenge, for software developers, is that it is very difficult to determine which file Windows is using at any given time. Windows could be reading from or writing to the "real" system folder or the "virtual" user folder. The silent redirection is not reported to the software application.



The Virtual Store introduces some complications for **AVAware** users; The **AVAware** Catalog files are traditionally installed into the **AVAware** Catalogs folder of the Windows Program Files directory (typically C:\Program Files\AVAware\Catalogs). With the Virtual Store in control, Windows automatically creates separate catalog directories for each Windows user, requiring catalog files and updates to be installed by each user individually. Recognizing the potential administrative nightmare, **AVAware** created the **AVAware Repository**.

## The AVAware Repository

Prior to the Virtual Store, **AVAware** files (including catalog files, subscription files, logos, view styles, etc.) were available to every user on the computer. This configuration requires much less of an administrative burden when installing or updating the software, since all users are updated via one location. To provide our users and their administrators with the same convenience and simplicity that was in place prior to the Virtual Store, we have moved all of the **AVAware** files to a new directory that is available to all users, which we call the **AVAware Repository**.

To make this transition seamless for current **AVAware** users, the **AVAware** developers have created a special utility called the **AVAware Repository Migrator**. The Repository Migrator uses the Windows UAC to obtain administrative privileges, scans through all previous **AVAware** directories (including "real" and "virtual" folders) and, if files are found, moves them to their new proper location(s). If future updates or files are mistakenly installed to the old locations, **AVAware** will automatically start the Repository Migrator to correct the installation. The Repository Migrator is only available in the latest **AVAware Suite** installation package.

## Conclusion

As computing technology moves forward, so does **AVAware**. It is our mission to constantly adapt our products to take advantage of the latest platforms, from Microsoft Windows 7, 64 bit computing and beyond.

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