I saved some files into the Program Files directory, and now they're gone!

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A customer reported that they saved some files in the Program Files directory, but when they went back to check, the files were gone! What happened?

What most likely happened is UAC Virtualization.

UAC Virtualization kicks in for applications which were designed for versions of Windows prior to Windows Vista. These applications often assume that they are running with administrative privileges, and when they try to write to file or registry locations that are normally restricted to administrators, they expect them to succeed. So UAC Virtualization lets those writes succeed by secretly redirecting them to another location inside the user profile. The reverse happens when the application later tries to read the file or registry key: If the file or key exists in the redirected location, it is used instead of the one in the administrative location.

You can read the above-linked TechNet article for details. The short version is that you can find the files in the `%LOCALAPPDATA%\VirtualStore` directory and the keys under the `HKEY_CURRENT_USER\Software\Classes\VirtualStore` key.

Bonus chatter: There used to be a button in Explorer called *Compatibility Files* that appears if you are looking at a directory that has a corresponding Virtual Store, and clicking it takes you to that Virtual Store. The button was removed in Windows 8 based on telemetry feedback that showed that very nearly nobody ever clicked on it or even cared about it. Furthermore, in the years since UAC was originally introduced, the number of applications which require UAC Virtualization has dropped significantly, so the need to access items in the Virtual Store dropped correspondingly.

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