Service Packs

Service packs are released by Microsoft from time to time to fix bugs, improve performance, and add new features to their software. Before a service pack is released Microsoft tests all of the fixes to make sure they do not conflict with one another or cause new bugs while fixing old bugs. This process of testing is known as regression testing.

Service packs undergo extensive regression testing before they are released. As an additional precaution, service packs can be installed with an option to uninstall them if necessary. This is a good idea especially in later service packs. However, the user frequently has no choice regarding early service packs because they fix so many bugs the software does not operate properly without the service pack. Such service packs are referred to as mandatory. An example would be service pack one for Windows 2000.

Patches and Hot Fixes

Although the terms are frequently used interchangeably, patches and hot fixes are not exactly the same thing. A patch is fix for a program that generally affects all users of the program. For example a patch might be used to fix a security problem in Windows 2000. The security problem would be the same for everyone using Windows 2000. Patches are usually announced and readily available for download by anyone.

A hot fix on the other hand is generally for an uncommon bug that does not affect everyone. The bug may only occur only if a certain combination of software is installed or a certain unusual configuration is used. Unlike patches that are readily available to everyone, Microsoft Technical Support provides hot fixes only on an as needed basis. The user will generally will not know a hot fix exists unless they have contacted Technical Support regarding a problem.

An important difference between service packs, patches and hot fixes is the amount of regression testing they have received. Patches are not as thoroughly regression tested as service packs and hot fixes are tested even less. For this reason patches and hot fixes should not be applied unless they are truly needed. This is especially true when applying multiple patches and hot fixes at the same time. There is the increased risk that the patches and/or hot fixes will conflict with one another.

Another problem with patches and hot fixes is that they must be reapplied whenever a change is made to the operating system. For example, suppose a user adds TCP/IP Printing Services to the operating system.

Proper procedure requires the user to reapply the latest service pack. The service pack must be reapplied because it may fix bugs in the TCP/IP printing service or resolve conflicts between the TCP/IP printing service and other components of the operating system. Once the service pack is reapplied all of the patches and hot fixes also need to be reapplied because the service pack has written over them. Service packs, patches and hot fixes require a reboot of the server when they are applied. This can be very disruptive for the users if the server requires several reboots every time a change is needed.

When a new service pack is released, it will include all of the patches and hot fixes prior to its release. The list of fixes in any given service pack is always available at Microsoft's web site, usually along with the service pack download. Therefore, when a new service pack comes out it is not necessary to reapply old patches and hot fixes.

The Bottom Line

As service packs become available they should be installed. Patches and hot fixes should not be applied unless they are truly needed. The user needs to assess the risk and benefit of the patch and decide if the risk and inconvenience is worth the benefit.