Creating Lasting System Reliability and Uptime for Windows® Users

Presented by:

Introduction

Reliability. It's what everyone wants to be assured of when purchasing a new system. Whether the system is deployed in a business or at home, every user has the same concern: can I rely on this system to satisfy my computing requirements? Reliability. It's what you remember when deciding to purchase your next system. Was my previous system a quality product? Was it reliable over the ***entire*** life of the system?

But how do you measure, or perceive, system reliability? Obviously, the hardware must be dependable; the initial configuration of components should be flawless; and pre-installed software needs to function and co-exist seamlessly. Certainly, these factors influence your initial impression, but what happens next? Well, you ***use*** the system. Over time, you will add new hardware components, install new software or update existing products, send and receive e-mail, surf the Internet and download files and programs. And undoubtedly, these every day computing activities will wage a war against system reliability, making a high quality, perfectly configured system unstable, and thus unreliable.

Consequently, as a PC owner you face a difficult predicament: despite having purchased a "perfect," well-designed system, you cannot control the inevitable, and sometimes disastrous, changes that may occur over time. With your productivity—and the contents of your wallet—at stake, you need to find the easiest way to ensure ***life-long*** system reliability.

Minimizing the Impact of Reliability Problems

So you bought a new Windows XP system, or upgraded your existing system with the latest and greatest operating system. But what do you do if you run into a problem and the system is no longer reliable and no longer functions properly?

Generally, this problem resolution process involves the use of a recovery solution, which will either repair key configuration files and system settings that have been damaged (thus causing the unreliable state) or reformat the system and reload pre-installed applications. When a system has become unstable and perhaps unusable, the most effective recovery solution will ultimately minimize its impact. This means being able to:

- **Return the system to a stable and usable state…**
  - … in the fastest possible time
  - …with no loss of data or applications
  - …even when the problem is so severe that the system is incapable of booting into Windows
- **Employ a recovery process that…**
  - …is so simple that even the most novice user can quickly and easily perform the restoration

…does not require you to reformat and reload the hard drive

…provides additional protection of critical data files when systems are in severe distress

And if you're like most users, you never really thought about or proactively installed a comprehensive third-party recovery solution. At least, not until **after** you ran into a problem that wreaked havoc on your system. However, you would probably agree that in the event of a serious problem, the ideal solution would enable you to employ a recovery tool "after the fact" to get your system up and running in as little time as possible, with no impairment to the system configuration, applications or data.

Analysis of Current Solutions

In years past, an unreliable, non-working system often meant a lengthy series of support calls to the systems vendor, return authorizations or even hauling the system into a service center. As value-added support services have become an increasingly important element in your selection of a brand, systems vendors have attempted to distinguish themselves from their competitors by supplying a variety of tools and services designed to improve system reliability and facilitate the support process.

There are a few popular reliability tools that users can turn to for recovery after the system has already encountered a problem. The following discussion provides a high level overview of their functionality as well as the issues that arise when utilizing these tools to restore unreliable systems to working condition.

1. The Recovery CD

In recent years larger PC vendors began providing a recovery CD or partition with each system shipped. In general, a recovery CD or partition simplifies the process of reformatting the hard drive, reloading the operating system, and reloading preinstalled drivers and applications.

While the recovery CD/partition can streamline this process, the process itself can take 30-60 minutes (plus the time required to reload drivers and applications installed after purchase) and the end result can be a total loss of your data. While this recovery approach can certainly restore your system to a working condition, it has a very negative impact. If you do not perform data backups each day, you may not be able to recover your lost data. Plus you may need to re-install every application that you loaded onto your system after you bought it!

2. System Restore for Windows XP Home and Professional

On Windows XP, Microsoft® provides a built-in reliability tool through System Restore. System Restore is designed to recover systems from configuration-related problems, the most common cause of unreliable system performance. If you encounter difficulties due to changes made by downloaded software programs, driver or application updates, or erroneous/inadvertent changes, you can restore the system to a previous point in time (using a System Restore checkpoint). If the restoration is successful, you can avoid making an unnecessary call to your PC vendor or a third-party service provider for support.

When available, System Restore enables a faster recovery that might otherwise take countless hours of troubleshooting or potentially require you to reformat the PC, reload the operating system and reinstall their applications. However, XP's System

Restore has a number of limiting factors, such as its scope of protection and recovery options that reduce its overall reliability and effectiveness. For example, XP's System Restore does not provide any recovery capabilities for non-booting systems; that is, systems that cannot boot fully into Windows or a functioning Safe Mode. Non-booting systems generally stop or hang somewhere during the boot process and indicate a serious problem that generally ***cannot*** be resolved using methods provided by the Windows operating system.

And unfortunately, there are many common computing activities that can result in a non-booting system. For example:

- System is infected with a virus (e.g. VBS_FIREBURN.A, etc.)
- Application or update installation modifies key configuration files/Registry, disabling the ability to boot system (frequently seen with CD burning applications)
- Changes made to boot level configuration settings (MBR, boot.ini)
- Registry corruption, system hive too large (this situation can occur when power down occurs during shutdown or suspend mode)

In years past, these types of problems were often resolved by booting the system with a DOS floppy and accessing the file system via DOS (rather than Windows) to correct the problem. With the Windows XP operating system and the NTFS file system (most commonly used file system for Windows XP), it is no longer possible to boot with DOS and gain access to the file system for problem resolution – and a non-booting system cannot utilize XP's System Restore.

Additionally, XP's System Restore lacks several crucial features that can dramatically impact its effectiveness, such as:

- **Does not protect against disabling function and loss of all restore point history**

  In Windows XP, you have the option to "turn off" System Restore. This action results in the deletion of all restore point history, rendering the system "unprotected." Similarly, certain system conditions can be created by install/uninstall programs that will disable System Restore and delete all restore point history.

- **Does not maintain a "factory" checkpoint**

  The ability to restore a system to the original configuration **without data loss** is essential when a system has undergone so many changes that a return to the original configuration is the only conceivable option to ensure a reliable, working system.

- **No tracking of low-level boot components**

  While XP's System Restore tracks a basic set of configuration files and Registry changes, it does not allow you to expand the range of items tracked in a checkpoint. For example, low-level boot components such as MBR (master boot record), boot sector and first level boot files are not tracked, providing **zero** protection against boot problems that may occur due to corruption of these components or faulty changes to them. And boot-level components are susceptible to corruption by many viruses.

- **Installation-triggered checkpoints capture small percentage of installations**
  XP's System Restore creates installation-triggered checkpoints to provide recovery in the event of a faulty installation. However, it only tracks a limited number of installation routines, such as those using the latest Installer-based routine. This lapse in functionality poses a widespread reliability risk; with thousands of programs undetected (and therefore creating no checkpoint available for recovery) when you install programs or software updates that do not use the latest Installer program. This limitation generally requires you to reload any applications added since the selected restore point.

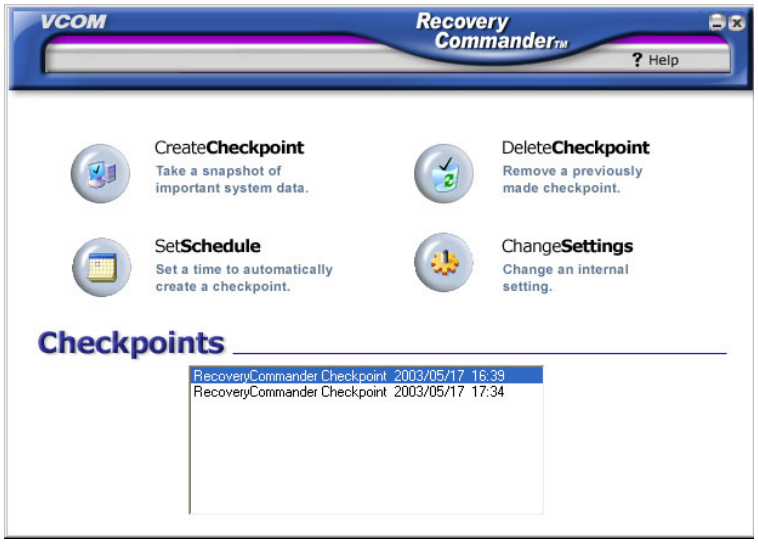
In summary, when considering the usefulness of the various "after the fact" or "post-problem" reliability tools that are either built-in or provided by your systems vendors, a few limitations stand out:

1) **Comprehensive recovery services for non-booting systems are not provided.**
2) **Other standard recovery processes result in data and application loss.**

Increasing Reliability with Recovery Commander™

When systems have already encountered a serious problem, VCOM provides Recovery Commander, unique post-problem recovery software that provides complete recovery from a non-booting state without data or application loss.

Recovery Commander is an essential recovery tool for Windows users. It protects against serious but fairly common problems by providing the ability to recover non-booting systems using System Restore checkpoints. Most importantly, you don't need to have previously installed Recovery Commander to recover your system. It works after the problem has *already occurred* and your system can no longer boot. Additionally, an optional component included with Recovery Commander offers improved protection options.
Extremely powerful yet easy to use, Recovery Commander provides highly effective results.



Because XP's System Restore does not support recovery of non-booting systems, and when disabled or "turned off" System Restore does not support recovery of booting systems, it is extremely risky for you to depend on System Restore as a primary reliability tool. Furthermore, dependence on processes that involve a system reformat and reload of the operating system and applications (causing data and/or application loss) will surely result in a negative experience. As a faster, simpler, and more accurate alternative, Recovery Commander, enables restoration of a System Restore checkpoint from a bootable CD. Full support is provided for FAT32 and NTFS-formatted systems. Plus, a restoration can be performed in less than five minutes (it typically takes an average of two minutes to complete the restoration and reboot the system into Windows).

Recovery Commander Facts

Revives inoperable Windows XP PCs without pre-installed CPR for XP software

- Non-booting recovery
- Supports data off-loading
- Preserves user data and applications during recovery process
- Tracks low-level boot components, increasing successful recovery
- Full support for FAT32 and NTFS
- Fast Recovery – less than 5 minutes
- Works even when System Restore is disabled

Recovery Commander is designed to provide the following benefits:

1. **Reliability for NTFS-formatted Systems:** Because Recovery Commander supports NTFS systems, you can maintain an NTFS-formatted boot drive, which provides you with faster boot times, better security, and support for partitions greater than 32 GB. Plus, you'll have a non-impacting reliability tool that you can use, without having to resort to a system reformat.
2. **Preserve Data and Applications in Recovery Process:** Recovery Commander enables you to restore systems to a working state while preserving vital data and applications. This can save a significant amount of time, and frustration, in the recovery process.
3. **Off-load Data Files:** For additional protection of critical files, Recovery Commander offers the ability to off-load data files to CDs, USB flash drives, or diskettes (as much data as you need).
4. **Extensive Recovery through Low-Level Boot Component Tracking:** XP's System Restore tracks a basic set of configuration files and Registry changes, but it does not allow you to expand the range of items tracked in a checkpoint. For example, low-level boot components are not tracked by XP, providing zero protection against startup problems that may occur due to corruption of these components or faulty changes to them.

   Recovery Commander restores these additional components, which significantly improves the chances of a successful restoration from inoperable states.
5. **Increased Range of Protection Against Faulty Installation Changes:** Recovery Commander offers a much greater range of protection by automatically triggering a checkpoint for any installation.

Most importantly, Recovery Commander is extremely easy to use. There is no setup required, and no ongoing maintenance—you don't need to remember to create

backups. The only piece of information you need to know is when the system last worked properly.

Summary

In closing, VCOM offers powerful, comprehensive protection through Recovery Commander that enables you to maintain a significantly more reliable and stable system for its entire life cycle. Recovery Commander utilizes field-proven recovery technology that has demonstrated its effectiveness with a wide variety of customers for many years.

For more information about how VCOM's reliability solutions can make your Windows systems more stable and reliable, please visit our web site at www.v-com.com or visit our Recovery Commander home page.

V Communications, Inc.
2290 North First St., Suite 101
San Jose, CA 95131

Phone: 408-965-4000
FAX: 408-965-4014

Web: www.v-com.com