COMODO
Creating Trust Online®

Comodo
Cloud Scanner
Software Version 2.0

User Guide
Guide Version 2.0.092611

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1.Comodo Cloud Scanner - Introduction

Comodo Cloud Scanner (CCS) is an easy and powerful system scanning tool that quickly and accurately identifies malware, viruses, suspicious processes and other problems with your computer.

With Comodo Cloud Scanner, all virus scanning, processing and analysis of the files on your computer is done by software installed on our remote servers rather than by software installed on your computer. Because it makes a real - time connection to Comodo's online database, Comodo Cloud Scanner (CCS) detects the very latest malware, viruses and rootkits more accurately than regular anti virus software. You no longer have to wait to download signature updates to find out if your system is infected with zero - hour threats. Using cloud technology in this way makes scan results a lot more accurate as you are effectively checking your system against the very latest version of Comodo's database. It also takes the work load off your computer so there is much less impact on system resources and performance when running a scan.
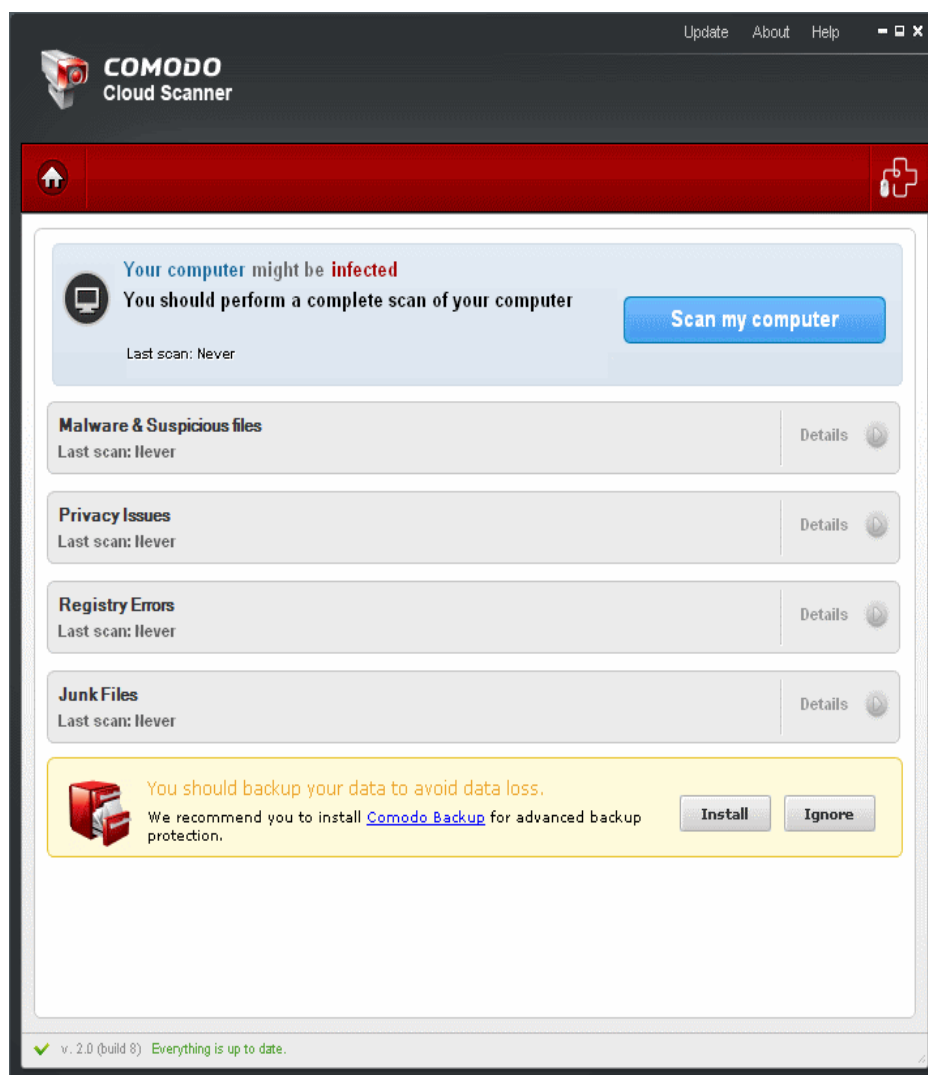
Four Scanners In One

Apart from identifying the viruses and malware, CCS also identifies other problems like Windows Registry errors that cause system instability, issues that threaten your privacy and junk or garbage files that occupy your valuable disk space.

Malware / Suspicious File Scanner
Comodo Cloud Scanner offers an extremely fast way of finding out whether your computer has viruses, root - kits, worms, spyware, adware, non - trusted processes or suspicious drivers and services. Apart from using a locally installed white - list of trusted executables, CCS also uses a real - time file look - up service to identify malware and suspicious (untrusted) files. The scanner is also great at discovering any hidden processes that are running on your

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computer - processes which may have been started by malicious software.

Registry Scanner

Whenever you perform a task such as installing or removing a program or modifying a file on your computer, Windows creates an entry in the Windows Registry to reflect this change. Over time, these entries become disorganized and cluttered and slow down your computer. This is because, as the size of the registry grows, it takes longer and longer for Windows to sift through it to locate and update the entries for any new tasks you are carrying out. In short, your system becomes sluggish and slow. Cloud Scanner identifies Windows Registry problems by running an in - depth scan to find any unnecessary or corrupt keys. After cleaning the registry, Windows will be able to access the information it needs from the registry much more quickly - meaning your computer will get an immediate performance and stability boost.

Junk File Scanner

Over time your disk drives become cluttered with temporary Internet files, logs, needless archives, unused icons and duplicate files. These junk files take up valuable hard disk space and can have a negative impact on the performance of your computer. Examples include temporary files created by Windows, files retained in the Recycle bin, Windows log files, temporary Internet files, temporary files created by Office Suite and more besides. CCS will scour your system and identify all those files that you could happily live without.

Privacy Scanner

Windows and other popular software keep a record of your recent activities in the form of temp files, histories, cache files, cookies and usage records. This data represents a potential security threat because it might be accessed by hackers or other people that use your computer. For example, anybody with access to this information can know exactly what you were working on, which Internet sites you have visited and can read a full transcript of your instant messenger conversations. CCS helps to protect you from identity theft by comprehensively identifying all traces of personal data that may be lurking in Internet browsers, IM clients and many other applications.

Guide Structure

This guide is intended to take the user through the installation, configuration and use of Comodo Cloud Scanner and is broken down into the following main sections:

- **Comodo Cloud Scanner - Introduction** - Short overview and key features of Comodo Cloud Scanner.
  - **System Requirements** - Minimum required Hardware and Software for the application.
  - **Installation** - A brief outline of the installation procedure.
  - **Starting Comodo Cloud Scanner** - How to start the application.
  - **The Main Interface** - Description of Menus and Options in the main interface.
- **Scanning Your System** - Guidance on how to scan your computer for problems and understand the results of scanning.
  - **Scanning Full System**
  - **Scanning Individual File/Folder**
  - **Understanding the Results**
- **Clean Your System of Problems** - Guidance on how to remove the errors and improve performance of your system.
  - **LivePCSupport** - Guidance on how to sign - up and use Comodo's remote assistance service.
  - **Use Comodo Free Products** - Guidance on how to use free products from Comodo to clean our system.
  - **Product Maintenance** - Guidance on diagnosing the installation and getting upgrades.
  - **Uninstalling Comodo Cloud Scanner** - A brief outline on uninstalling the application.
  - **Appendix 1 - The Windows Registry Explained**

1.1. System Requirements

Hardware and Software Requirements

To ensure optimal performance of Comodo Cloud Scanner, please ensure that your PC complies with the minimum system requirements:

Supported Operating Systems

Windows 7 - 32 bit and 64 bit

Windows Vista - 32 bit and 64 bit

Windows XP - 32 bit and 64 bit

Windows Server 2003 - 32 bit and 64 bit

Windows Server 2008 - 32 and 64 bit

Minimum Hardware - 32 bit systems

- Intel Pentium II 233 MHZ or equivalent processor
- 32 MB RAM
- 12 MB free disk space

Minimum Hardware - 64 bit systems

- Intel Pentium 1 GHz or equivalent processor
- 1 GB - 2 GB RAM
- 12 MB free disk space

1.2. Installing Comodo Cloud Scanner

Before you install Comodo Cloud Scanner, please read the installation instructions carefully and review the **system requirements**. Quit all other Windows programs before installing Comodo Cloud Scanner. The installer requires administrative privileges on the computer.

After downloading the Comodo Cloud Scanner setup file to your local hard drive, double click on 'Setup.exe'. to start the installation wizard.

The setup wizard will install two items:

- Comodo Cloud Scanner
- Comodo **LivePCSupport client**

Step 1- Choosing the Interface Language

The set up program starts automatically and the 'Language Selection' dialog is displayed. The language you choose here will determine the language that you see in the interface.

Click 'OK' after making your choice from the language drop - down. The next step takes you to the 'License Agreement' screen.

### Step 2 - End User License Agreement

Complete the initialization phase by reading and accepting the End User License Agreement (EULA):
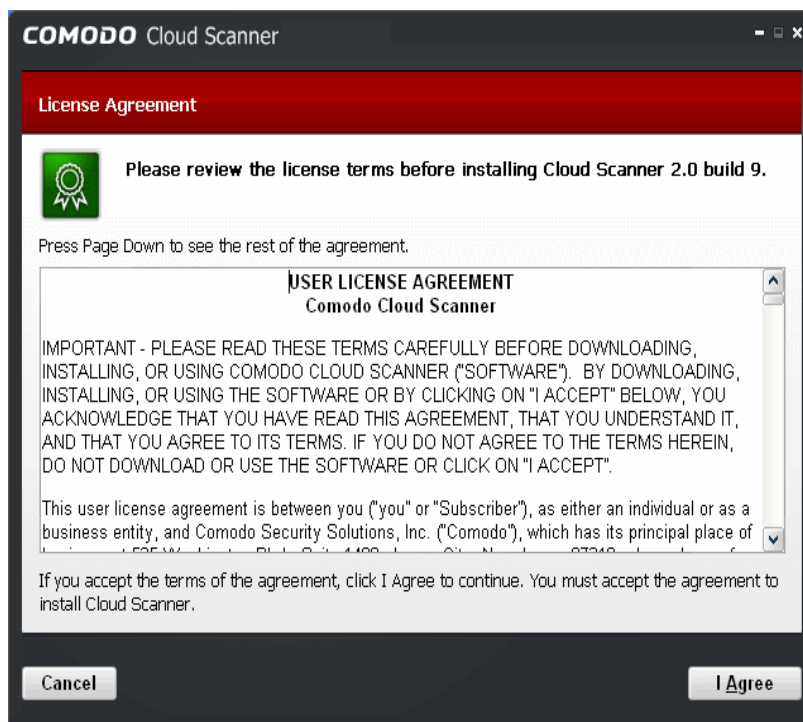
Click 'I Agree' to continue the installation. If you want to cancel the installation, click 'Cancel'.

Step 3 - Select Destination Folder for Installation

The next screen allows you to select the installation directory for Comodo Cloud Scanner. The default path is *C:\Program Files\Comodo\Comodo Cloud Scanner*.
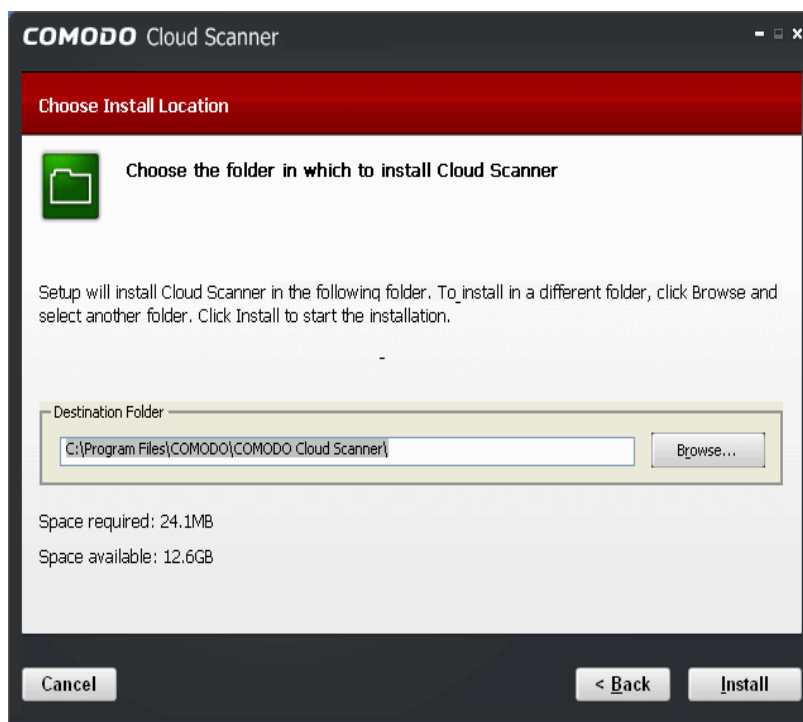

- To install the application in the default location, click 'Install'.
- To install the application in a different location, Click the 'Browse' button, select a different installation location and click 'Install'.
- To review/change any of the settings you specified earlier, click 'Back'.

Step 4 - Installation Progress

A setup status dialog box is displayed. You will see a progress bar indicating that the files are being installed...
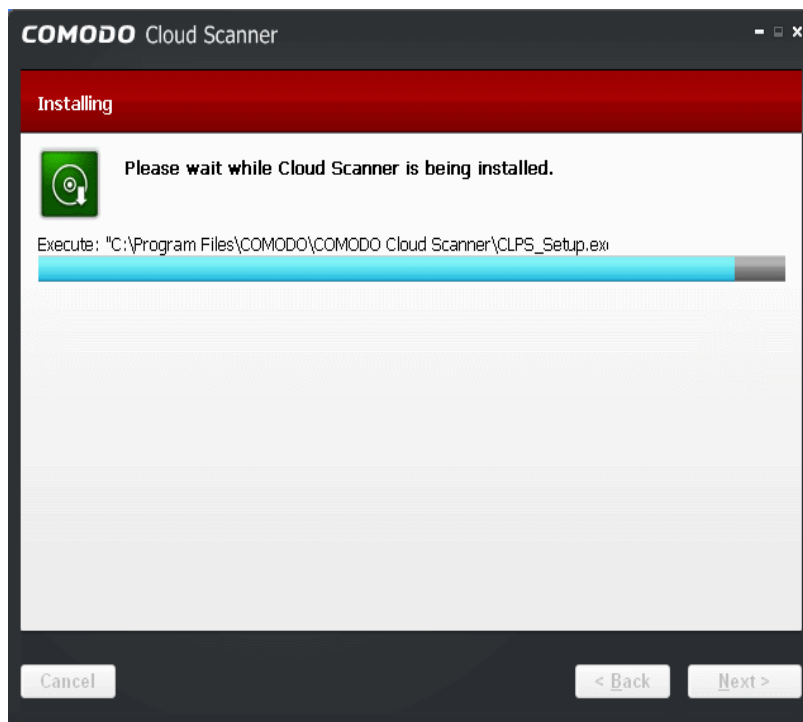
…and on completion, the Installation Complete dialog will be displayed.
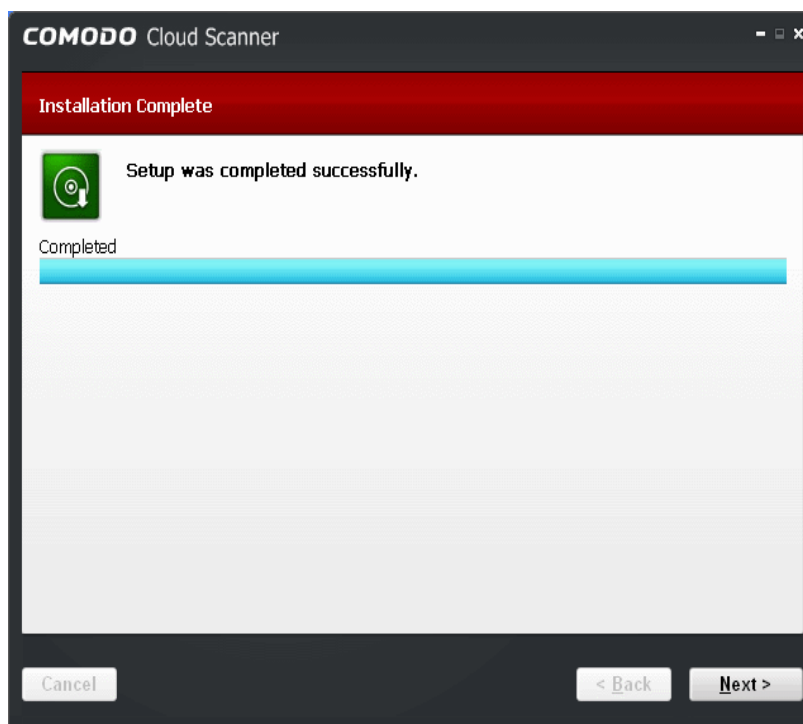
Click 'Next' to continue.

Step 5 - Product Activation

Next, the setup wizard will activate your free lifetime license. If you wish to sign up for news about Comodo products then enter your email address in the space provided and select **Sign me up for news about Comodo products**. This is optional. Click

'Next'.
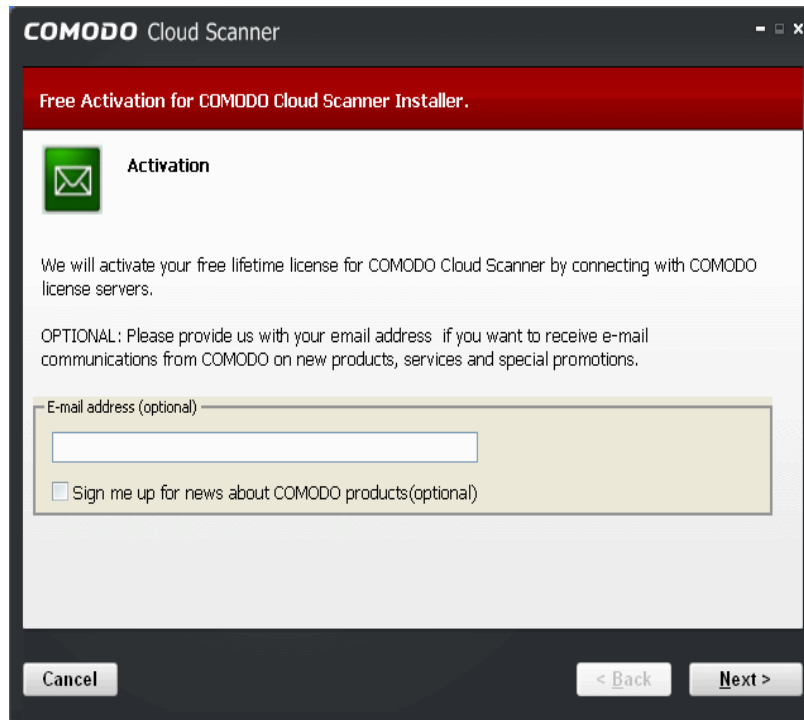
Step 6 - Installation Completion

An Installation complete screen will be displayed. Click 'Finish' to complete installation.
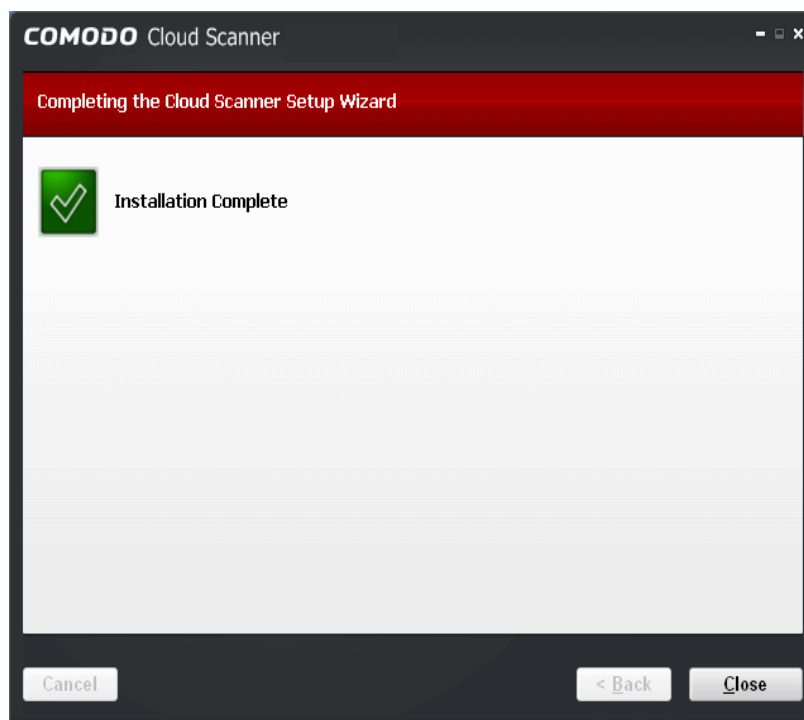
You can start the application from the Start Menu. See **Starting Comodo Cloud Scanner** for more details.

1.3. Starting Comodo Cloud Scanner

You can access Comodo Cloud Scanner through the Windows Start Menu or via the desktop shortcut.

Windows Start Menu

You can start Comodo Cloud Scanner by hitting the 'Start' button and navigating to: Start > All Programs > Comodo > Cloud Scanner > Comodo Cloud Scanner.
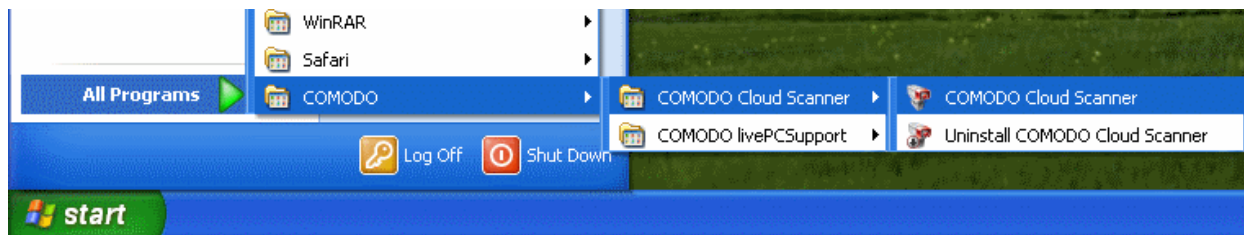
Desktop Shortcut

You can also start the application by double - clicking on the Comodo Cloud Scanner desktop shortcut icon.

1.4. The Main Interface

Comodo Cloud Scanner's streamlined interface provides fingertip access and control over all functions of the software.

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1.   Home and Live PC Support Buttons Pane

This pane contains two persistent buttons:

- Home Button - Takes you back to the home screen any time.

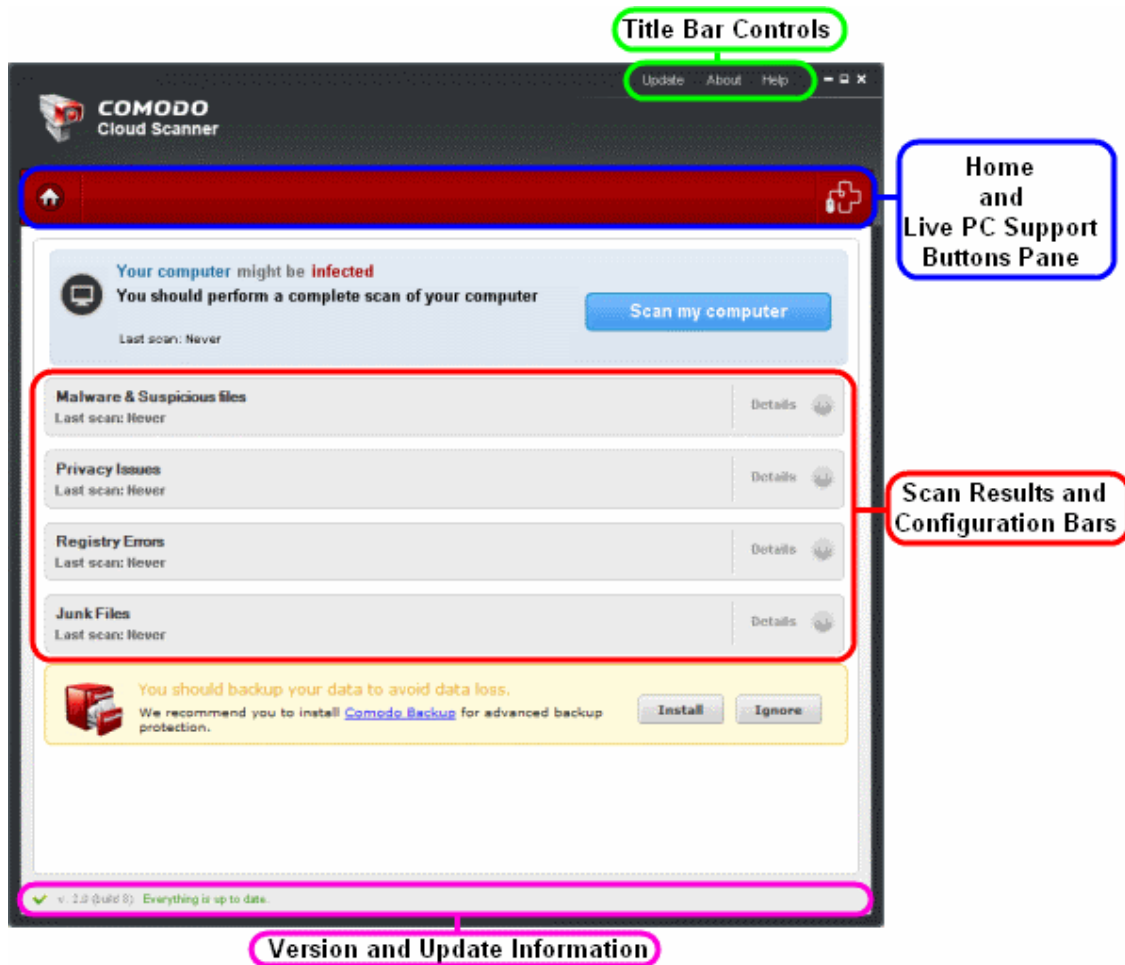- **Live PC Support Button** - Launches the Live PC Support client and connects for remote assistance service offered by Security Experts in Comodo who can access your computer through their Remote Desktop.

2.   Scan My Computer

Clicking the 'Scan my computer' button will start a full scan of your system for:

- Malware and suspicious files - including viruses, Trojans, worms and suspicious drivers, services and processes that are running on your system.
- Privacy Issues - The usage trails of applications on your system. This will include, for example, the play - lists of media players, recent files used by the Office Suite, browser cache, cookies, history, typed URLs and the auto - complete history of various browsers.
- Registry Errors - Corrupted, unnecessary and invalid Windows Registry entries.
- Junk and temporary files that are unnecessarily occupying space on your hard drive.

3.   Scan Results and Configuration Bars

The 'Details' buttons becomes active and an option is also available for rescanning once a scan has been completed. Clicking on each of the 'Details' button opens the respective results panel.

## 4.   The Version and Update Information

The bottom pane provides the version and update information:

- **Version Info -** Indicates the version of Comodo Cloud Scanner currently installed in your system.
- **Update Info** - Indicates whether the version you have installed is the latest one or it needs to be updated.

5.   The Title Bar Controls

The title bar contains controls for:

- **Update** - Starts the process of searching for latest updates for Comodo Cloud Scanner.
- **About** - Opens the About dialog of Comodo Cloud Scanner. The About dialog contains the version number and the copyright information.
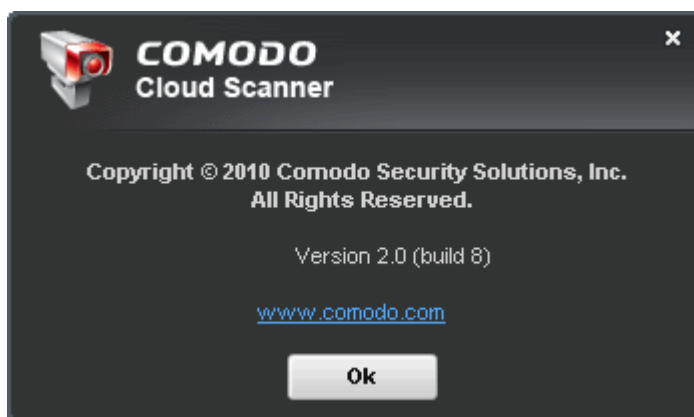
2.Scanning Your System

Comodo Cloud Scanner is an all - in - one scanner which simultaneously scans your system for:

- **Malware and Suspicious Files**
- **Privacy issues**
- **Registry Errors**
- **Junk Files**

2.1.Summary of the Scanning Process

- Each Scan audits all running processes and loaded modules
    - These are checked against the local signature white - list that ships with Comodo Cloud Scanner
        - If the process/module is on this white - list then it is trusted
    - If an executable is signed by a trusted authority then it is trusted
    - If it is a windows module or process it is trusted
- **Cloud Analysis Part 1 -** If it is none of the above then it is, at this point, 'unknown'. In order to try to establish whether a file is safe or not, CCS will first consult Comodo's File Look - Up Server (FLS) to check the very latest signature databases:
    - A digital hash of all unknown processes is created
    - These hashes are uploaded to the FLS to check whether the signature of the file is present on the latest databases. This database contains the latest, global black list of the signatures of all known malware and a

white list of the signatures of the 'safe' files.

- First, our servers check these hashes against the latest available black - list
  - If the hash is discovered on this blacklist then it is malware
  - The result is sent back to the local installation of CCS
- If the hash is not on the latest black - list, it's signature is checked against the latest white - list
  - If the hash is discovered on this white - list then it is trusted
  - The result is sent back to local installation of CCS
  - The local white - list is updated
- **Cloud Analysis Part 2 (Optional)** - If the hash is not on either the latest black - list or white - list as described above then it remains 'unknown'. The CCS results interface will list these files as 'suspicious' in the results interface but will display the message 'Some files are not in our database. You can submit these files to Comodo for analysis.' The user then has the option to submit these unknown files for immediate analysis by the Comodo Instant Malware Analysis (CIMA) servers. Files that are uploaded to CIMA undergo the following process:
  - The files go through a thorough, automated anti - virus scan on our servers
    - If the scan discovers the file to be malicious (for example, heuristics discover it is a brand new variant) then it is designated as malware. This result is sent back to the local installation of CCS
    - If the scan does not detect that the file is malicious then it passes onto the the next stage of inspection:
  - The file is executed in a sandbox on our cloud servers and its actions and behavior are monitored
    - If behavior monitoring detects that the file behaves maliciously:
      - It is classified as malware
      - The result is sent back to the local installation of CCS
    - If behavior monitoring detects that the file does not perform any malicious actions then:
      - It is classified as safe
      - The result is sent back to local installation of CCS

Although each file is placed under intense scrutiny by the tests our servers, the processes listed above are designed to be completed in the fastest possible time.

At no stage is any personally identifiable information sent to Comodo servers.

2.2. Scanning Full System

To begin a full scan of your system simply click the 'Scan my computer' button from the main Interface:
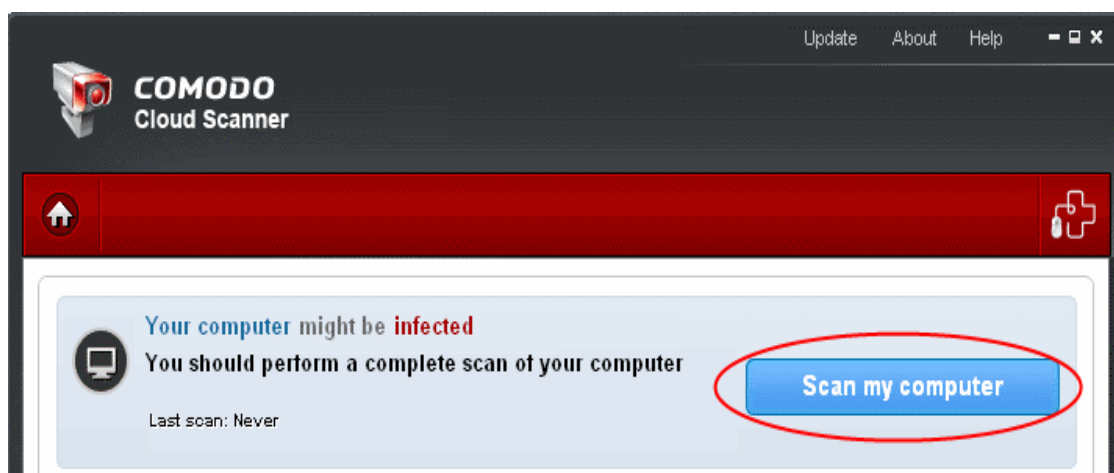
The upper pane of the interface displays the progress bar indicating the overall progress. The lower pane displays the progress of each of the 5 types of scan and a running total of the number of errors found in that category:
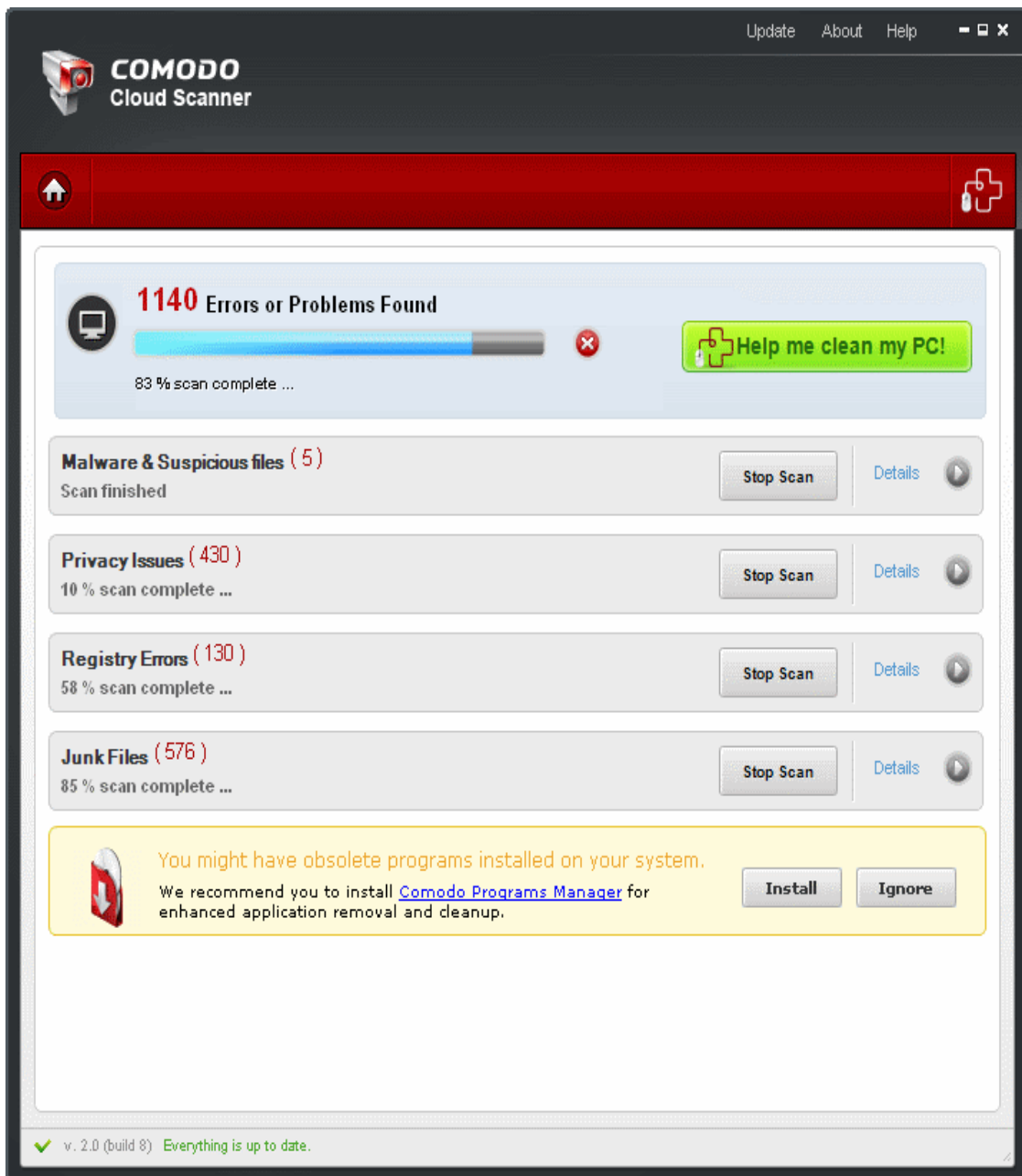
- If you wish to stop the scanning process, click the button displayed beside the progress bar.

Once the scanning is completed, the 'Details' link will be activated as well as the 'Help me clean my PC!' and 'Rescan' buttons will appear in the main interface. You can stop the scanning process of any category by clicking the 'Stop Scan' button in the respective bar.

The results screen will be displayed on completion of scanning:
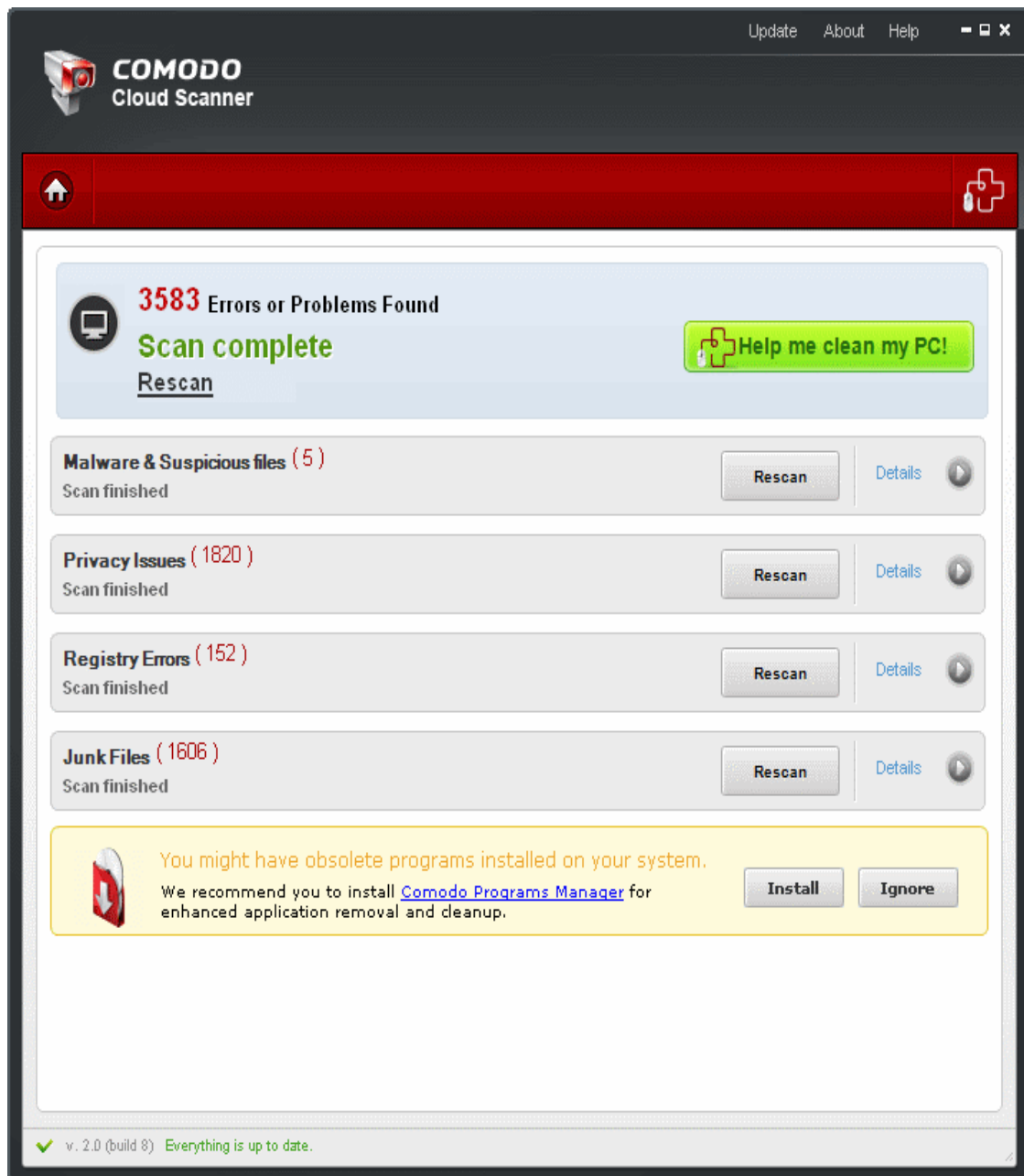
You can view the individual results for each category by clicking on the category. Refer to **Understanding the Results** section for more details.

2.2.1. Restarting an Individual Scan

Comodo Cloud Scanner allows you to rescan an individual category at any time by clicking the 'Rescan' button. This button becomes active only after an overall scanning is complete.

2.3. Scanning Individual File/Folder

Sometimes it may not be necessary for you to run a complete scan of your system, especially when you have installed a new software or copied some files, which your are not completely sure that it is malware - free. The Comodo Cloud Scanner allows you to scan any individual file or folder in your computer that you are doubtful or suspicious.

To run a scan for an individual file or folder:

- Right - click on the individual file or folder that you wish to scan.
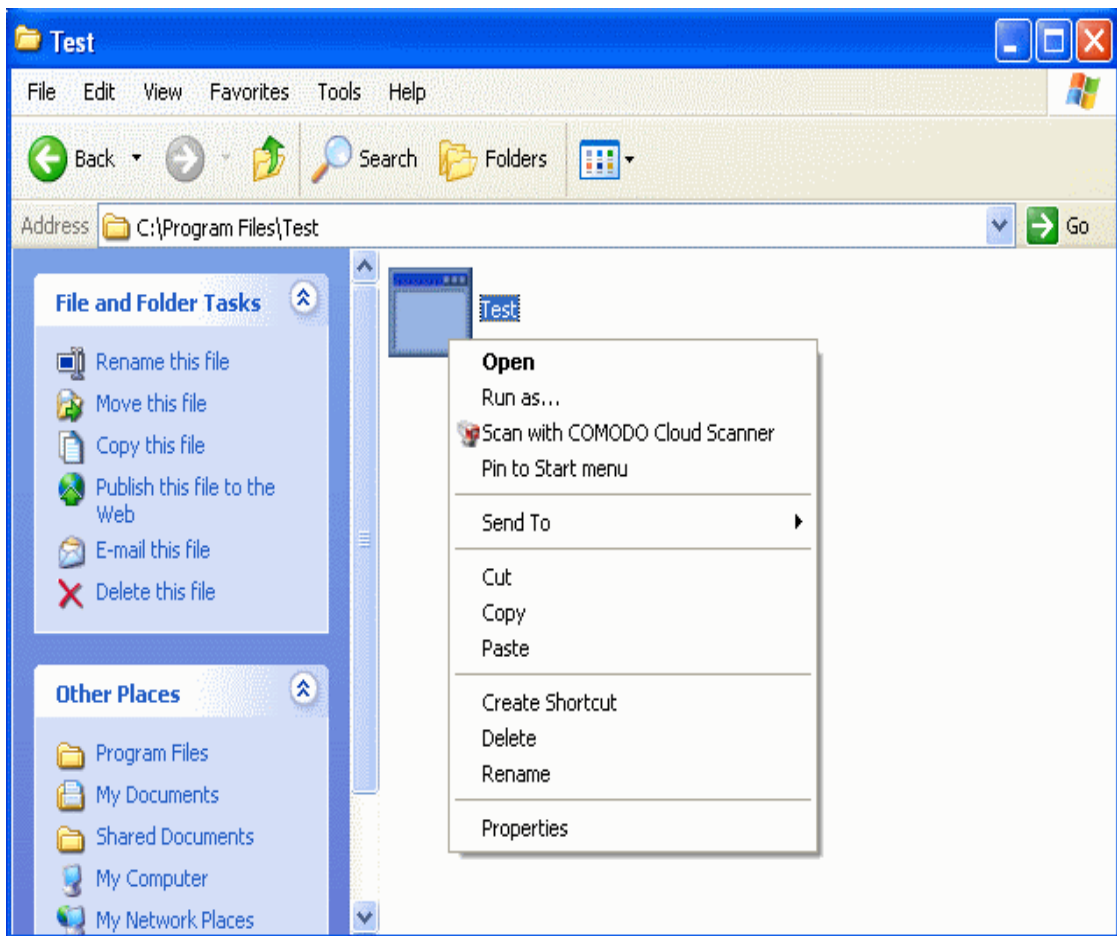
- Click 'Scan with Comodo Cloud Scanner' from the context sensitive menu.

The Comodo Cloud Scanner will start the scanning and on successful completion the scan results for the individual folder/file will be displayed.

2.4. Understanding the Results

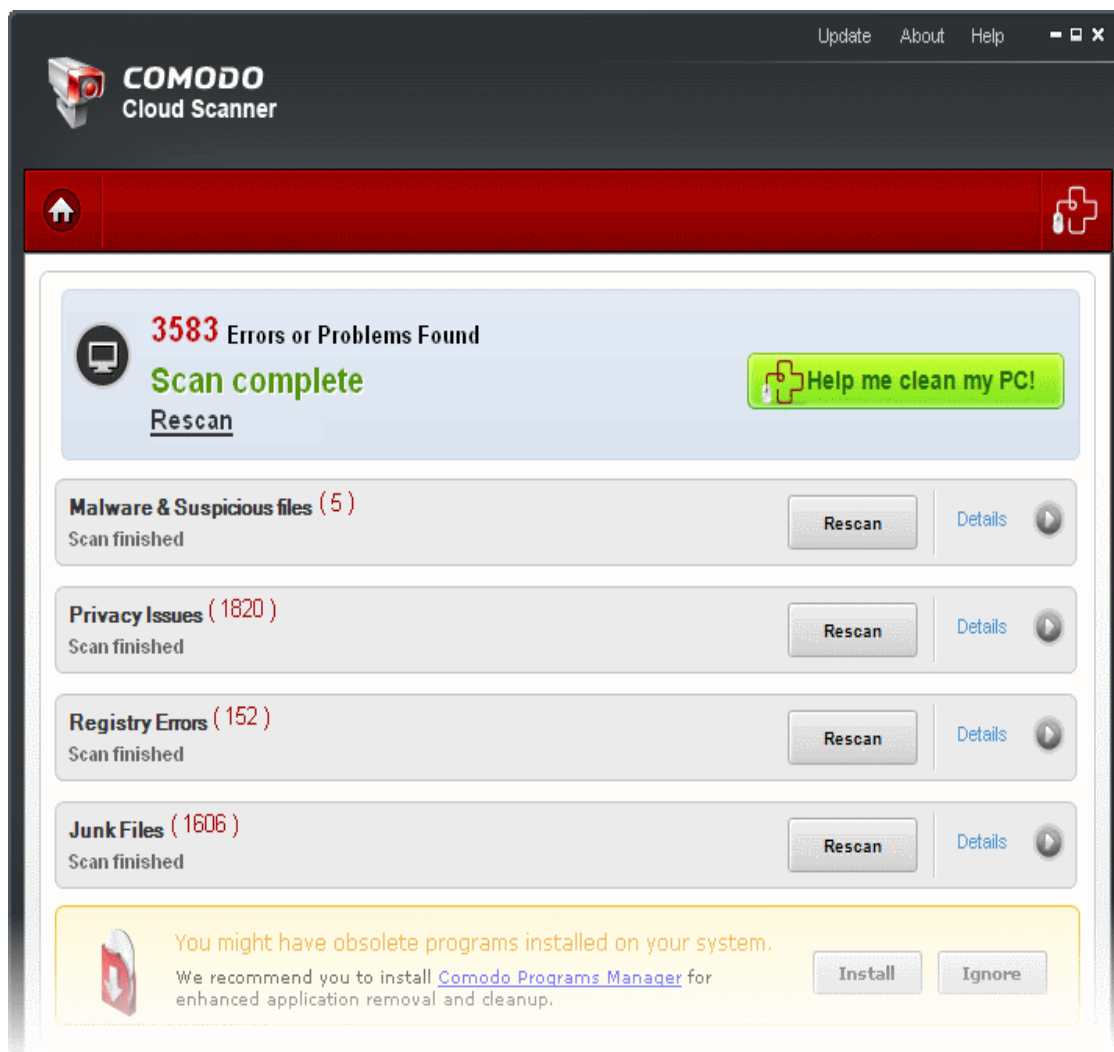The Results screen of Comodo Cloud Scanner provides a comprehensive view of the identified malware, suspicious files, Registry errors, privacy issues and junk files in your system on completion of overall scanning. The upper pane displays the

status of your system and the total number of errors found.

You can view the individual results of each category by clicking the respective bar or the 'Details' link beside the category.

Tip: An option is now available to you to view the results of each category from the drop - down box in the 'Home and Live PC Support Buttons' pane.

2.4.1. Malware and Suspicious Files

After completing **the scanning process**, the Malware and Suspicious files bar will list all the files that have been identified as malicious and also those files that are suspicious/unknown.

- To view this list, click the 'Malware and Suspicious Files' bar or the 'Details' link.

The results pane will display only the malware and suspicious/unknown files detected by scanning your system excepting the critical areas such as Windows and Program Files folders.
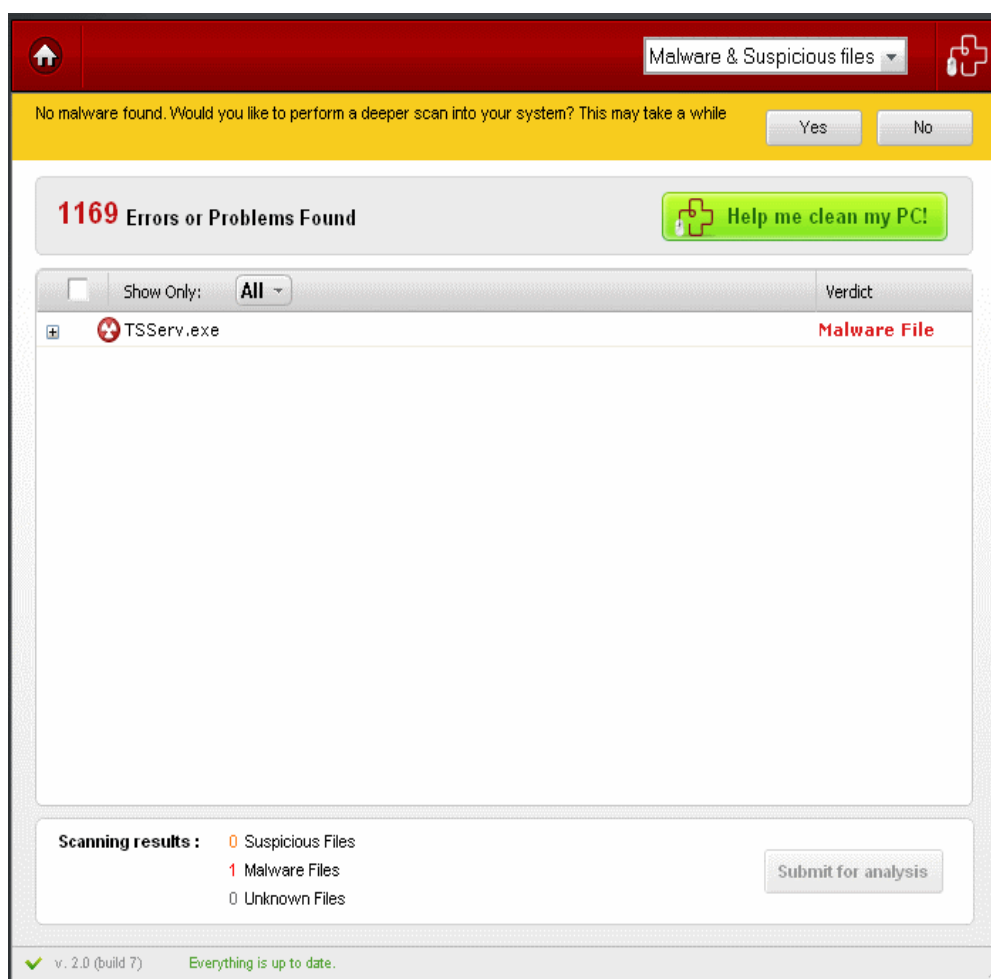
A message will appear providing you an option to perform a deeper scan in your system to check for malware in critical folders.

To perform a deeper scan in your system:
- Click the 'Yes' button in the yellow pane above the main interface.
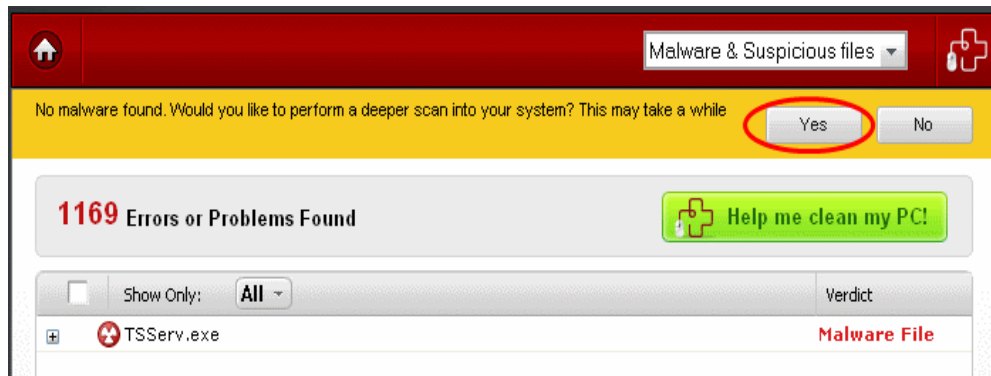
The progress of the deeper scan will be displayed in the progress bar.
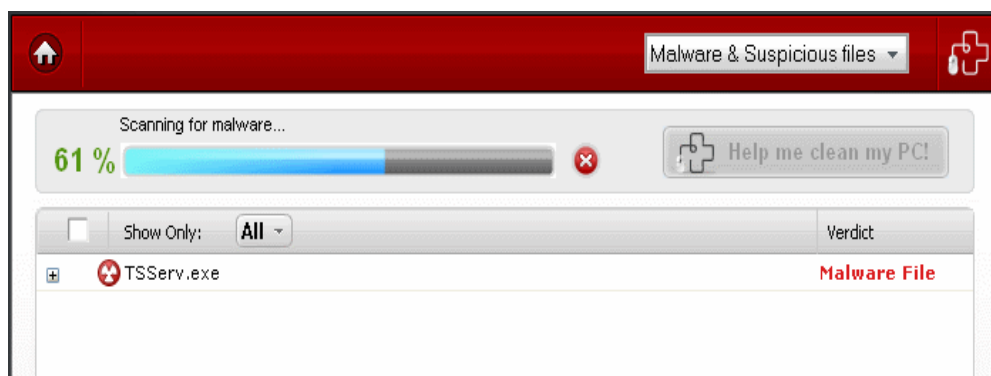
Detailed information on each identified malware or unknown files are provided in the results screen.
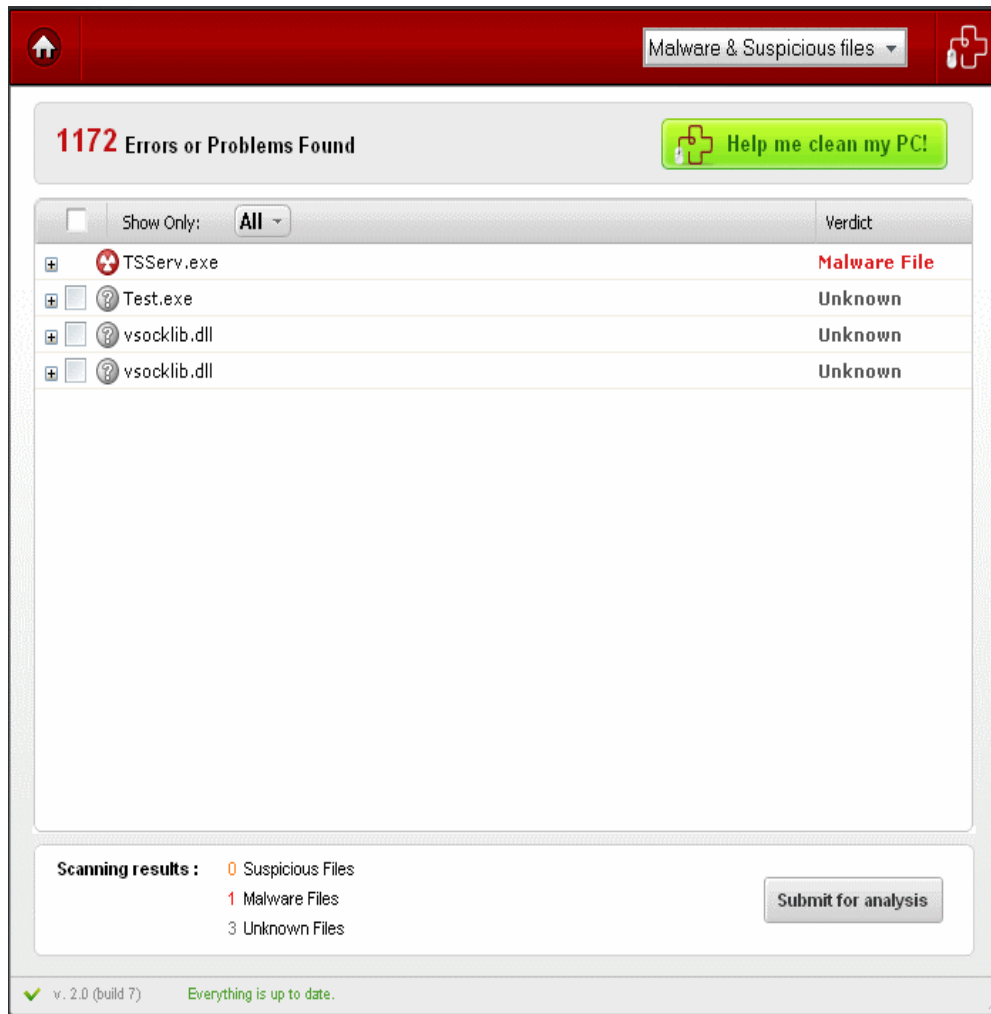
• To view more details of an entry in the list, click on the '+' button or double click on the file icon beside the entry.
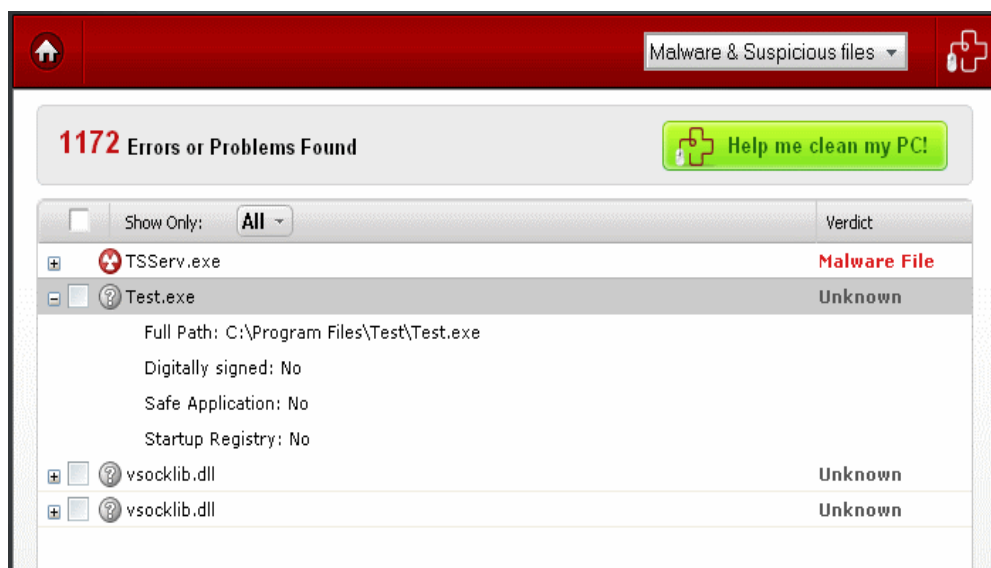
Filtering Option

The results pane allows you to filter the entries in the list based on their verdicts.

To filter the results:

• Click the drop - down menu beside 'Show Only':
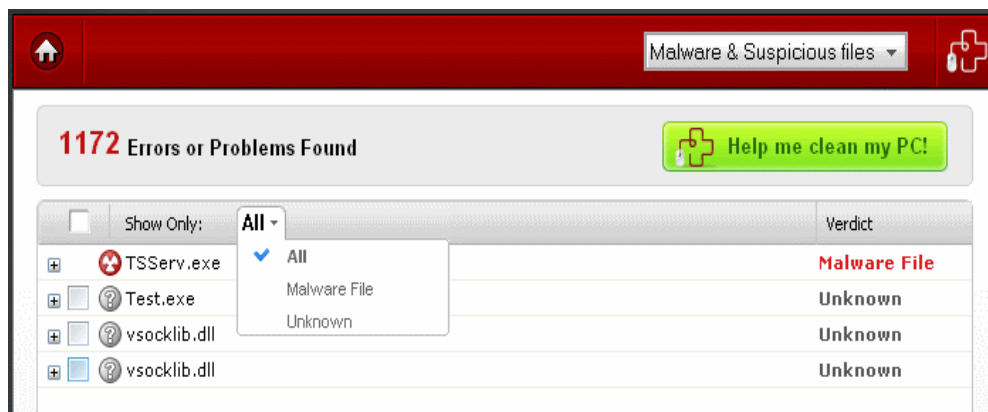
Select the desired type of file to view from the drop - down menu.

To remove malware, suspicious and unknown files:

• Get our experts to remove them remotely. Click the 'Help me clean my PC' button and get a revolutionary support service designed to make your life easier. Find out more at **http://www.livepcsupport.com**. Alternatively, read more about the service in section **3.1 LivePCSupport** of this guide.

• Download Comodo Internet Security. The software is free for life and contains a very powerful Antivirus, Firewall and advanced host intrusion prevention system. Find out more by visiting **http://www.comodo.com/home/internet - security/internet - security - pro.php** or **section 3.2.1 Comodo Internet Security** of this guide.

2.4.1.1. Submitting Unknown files to CIMA for Analysis

During the scanning process, Cloud Scanner will have automatically uploaded the hashes of unknown files (files those are neither definitely malware nor definitely trusted) for file look - up. The results of the file look - up are returned to the local installation of CCS. If the file was found on the white - list then it is classified as safe. If it was found on the cloud black - list then it is classified as malware. If it is on neither the black nor white list then it is classified as 'unknown'.

The user is then presented with the option of **uploading unknown files to the Comodo Instant Malware Analysis (CIMA) server**. Here they will undergo virus checks, sandboxing and behavior monitoring to try to establish whether it contains malicious code. If a file is found to be harmless then it will be added to the global whitelist. Conversely, if the file shows malicious behavior, it will be added to the global blacklist. Once the global lists have been updated, any other users that have the same file on their machines will receive an almost instant verdict as to the files safety. Accurate classification of malware in this manner is beneficial not just to you, but to all users as it makes scans faster and more accurate. Comodo encourages users to upload all unknown files to CIMA.

Unknown files are listed in the Malware and Suspicious files area and 'Submit for analysis' button provided at the bottom of the pane enables you to upload them for analysis:
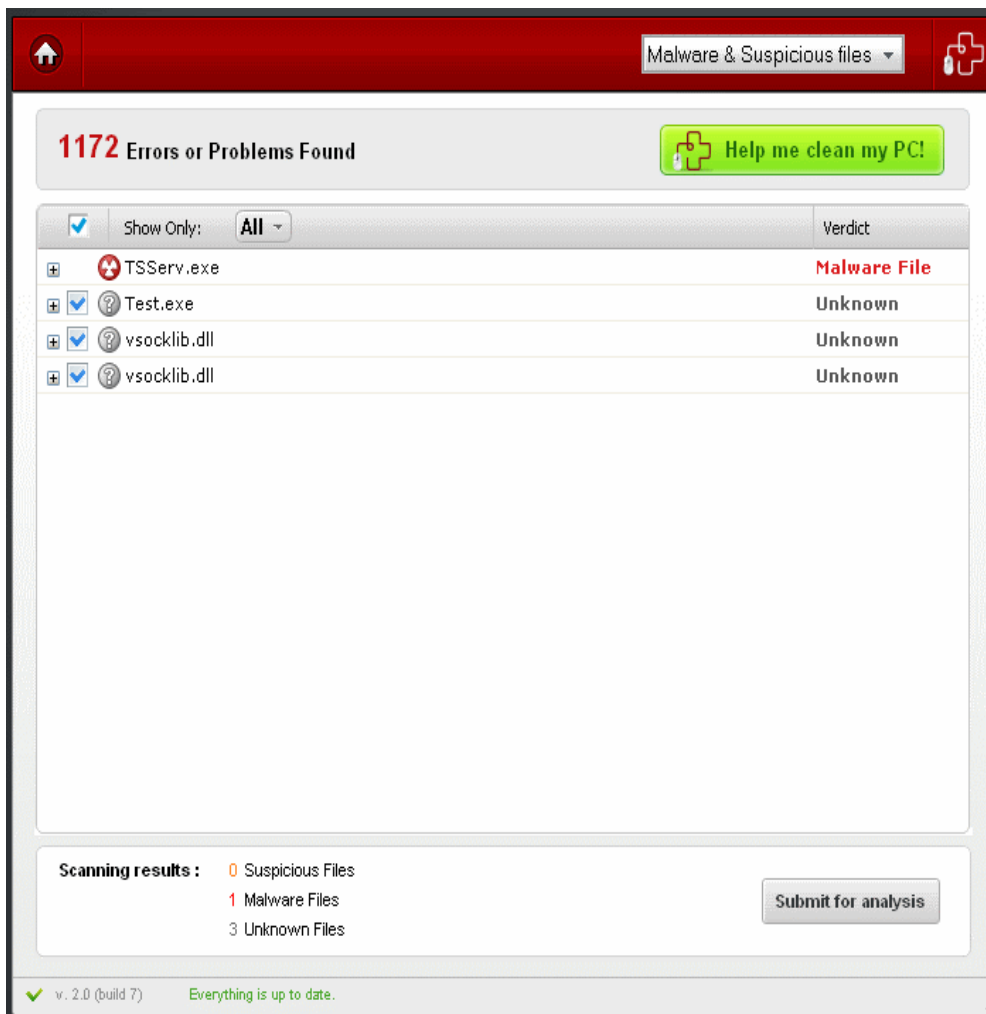
- If you want to submit all unknown files at once for analysis, select the check box on top of the results pane and click the 'Submit for analysis' button on the bottom of the pane.

- If you want only specific files for analysis, select the check box beside the file name and click the 'Submit for analysis' button on the bottom of the pane.

The files will be immediately sent to CIMA for analysis and the global whitelist/blacklist will be updated accordingly.

2.4.2. Privacy Issues

Many Windows applications keep records of your activity and software usage (for example, Internet history, media play - lists, recently opened documents etc). These histories represent a potential threat to your privacy and could be accessed by others who use your computer. Comodo Cloud Scanner performs a deep scan on your system and identifies:

- Temporary Internet files and browser caches;

- Cookies - small files that web sites store on your computers for identification purposes;

- Auto - complete forms - logins, user names, passwords and other personal information entered at web sites and keywords entered at search engines;

- Internet history - the lists of visited web sites;

- Records of recently opened documents;

- Temporary files created by Windows System programs, Windows Explorer and other programs;

- System Registry - run list, search results, mapped network drives, attached peripheral devices, last opened Registry key, etc.

To view the list of files/cookies/cached items etc. containing data that could compromise your system, click on the 'Privacy Issues' bar.
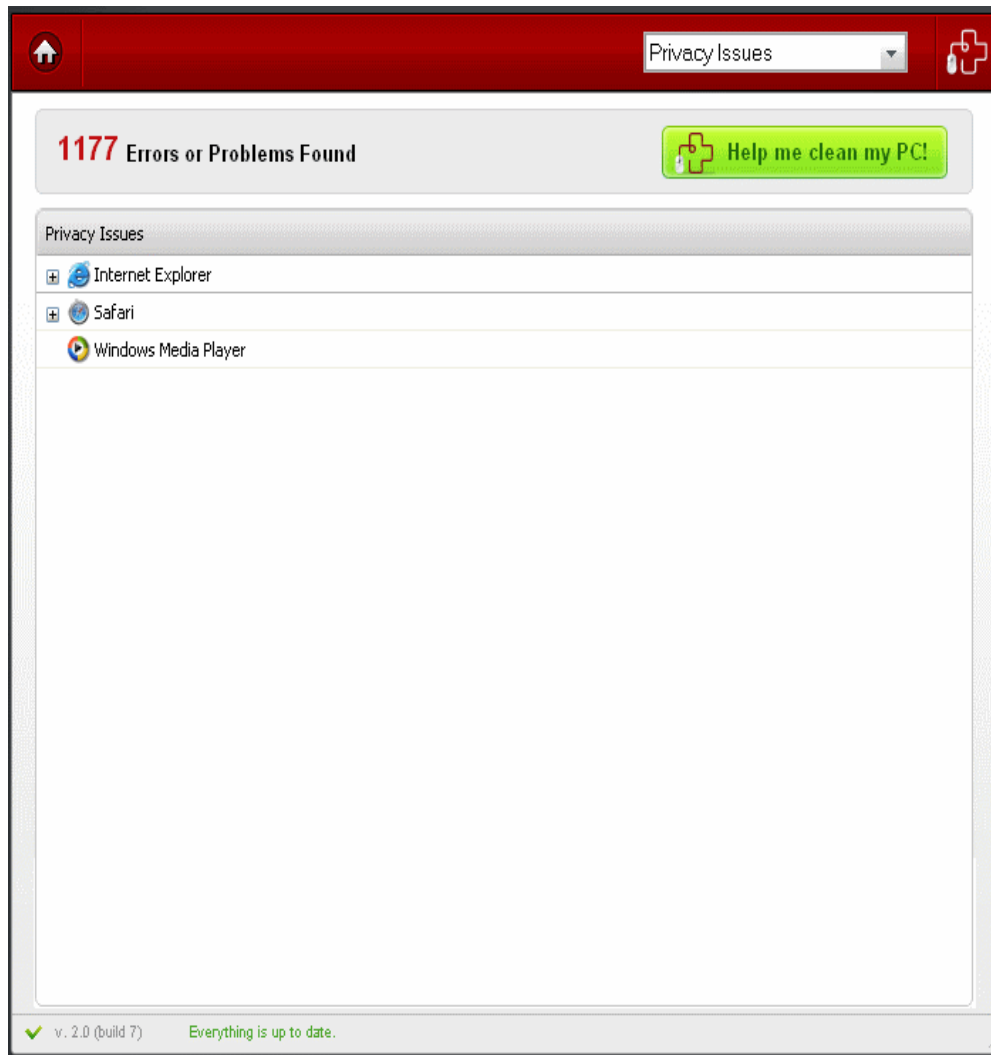
To view more details about a particular entry in the list, click on '+' symbol to the left of the entry.
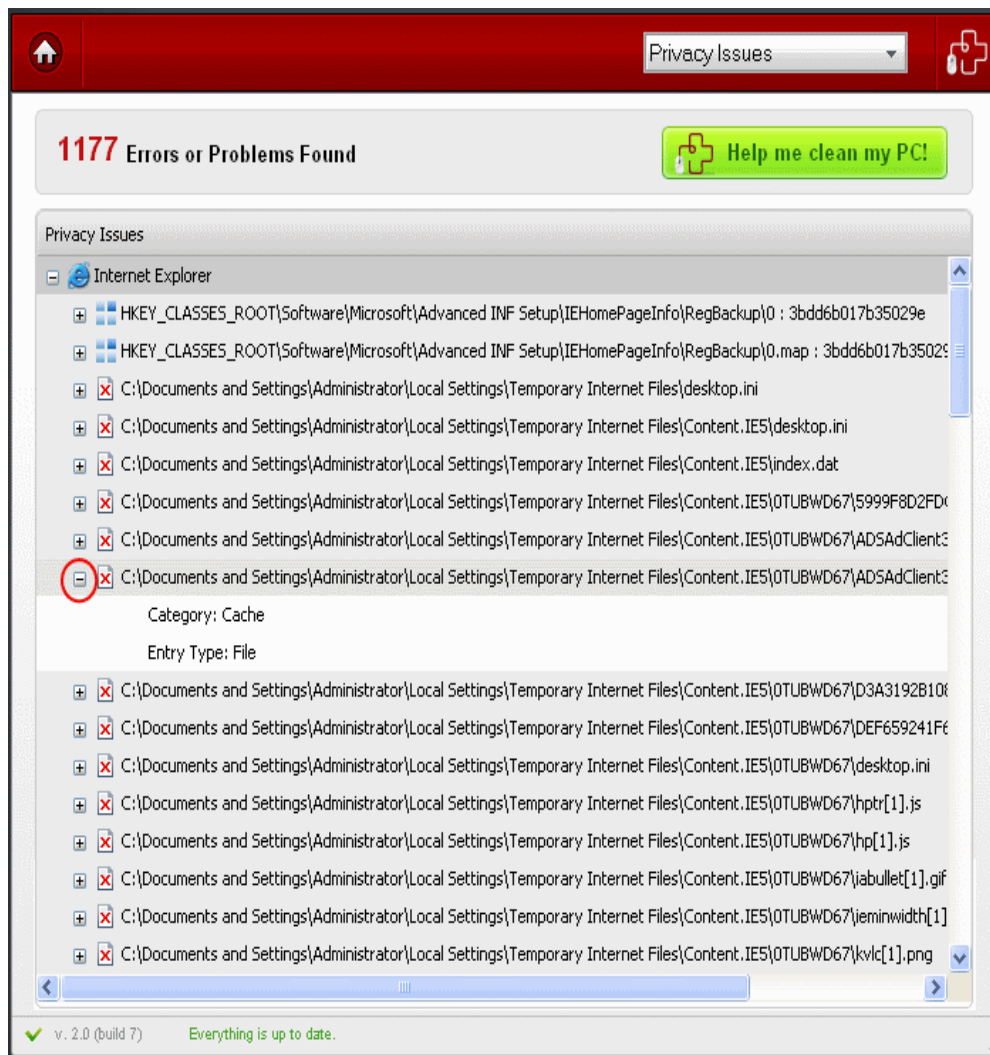
To remove the privacy related files and trails:

Get our experts to fix them remotely. Click the 'Help me clean my PC' button and get a revolutionary support service designed to make your life easier. Find out more at **http://www.livepcsupport.com**. Alternatively, read more about the service in section **3.1 LivePCSupport** of this guide.

Download Comodo System - Cleaner. The software is free for life and contains a very powerful privacy cleaner. Find out more by visiting **http://www.comodo.com/home/support - maintenance/system - cleaner.php** or section **3.2.2 Comodo System - Cleaner** of this guide.

2.4.3. Registry Errors

Obsolete or unwanted items in Windows registry in order may affect the stability and performance of your computer. Such items may include information left by software that has otherwise been removed from the computer, information that is no longer of use, or keys used by malware. Windows Registry problems can make a Windows system slower, less reliable, unbootable, and in extreme cases can only be fixed by reinstalling the operating system. **Click here** for more details on Windows Registry.

Comodo Cloud Scanner performs a deep scan of your Windows Registry and identifies corrupt and unnecessary entries that are causing system slow down and other errors. The locations scanned are:

- **Start - up Locations** - Windows Registry items that are set to run at Windows startup are located in this section of the registry. These registry entries contain references to the locations of these items on the hard drive. The Cloud Scanner identifies the startup items from the registry that no longer exist at their specified locations on the hard drive.

- **Shared Dlls** - Libraries that offer some form of sharing, allowing the same library to be used by multiple programs at the same time. The Cloud Scanner identifies the share control files entries from the registry that no longer exist.

- **Font Locations** - Fonts that are registered in the fonts folder of the Windows operating system. The Cloud Scanner detects the registry entries which reference fonts that no longer exist in the Windows fonts folder.

- **Application Paths** - The Windows system supports 'per application' paths. If an application registers a path, Windows sets the PATH environment variable as the registered path when it starts that application. When the application no longer exists, related information has to be removed safely - The Cloud Scanner searches for such entries and identifies them.

- **COM and ActiveX** - The Cloud Scanner scans for COM/ActiveX object that refer to a non - existing file. This reference is considered invalid and has to be removed.

- **File Extensions** - File extensions are usually registered in the registry during installation of the application. The Cloud Scanner identifies the Windows file extensions that are no longer associated with applications installed on your system.

- **Shared Folders** - The Cloud Scanner checks every path in the Shared Folders section. If a folder referenced by a path doesn't physically exist, the scanner identifies the path from this registry key, which has to be removed.

- **System Services** - The Cloud Scanner checks every path in the System Services section. If a path doesn't physically exist, the scanner identifies the path from this registry key, which has to be removed.

- **Menu Order** - The Cloud Scanner checks every entry in the Menu Order section. If the entry doesn't physically exist at Start - > Programs, the scanner identifies the path from this registry key, which has to be removed.

- **Help Locations** - All installed application should register their help files in this section of Windows Registry. The cloud Scanner identifies those references to help files that no longer exist.

- **Uninstall Locations** - After you have uninstalled an application, the references to the uninstalled file may remain in the registry. Comodo Registry Cleaner removes such entries.

- **In - Depth Search** - The Cloud Scanner scans all the paths from all the Software locations. If an entry doesn't physically exist, scanner identifies the entry from the Software registry key, which has to be removed.

To view the list of Registry errors identified from your system, click on the 'Registry Errors' bar.
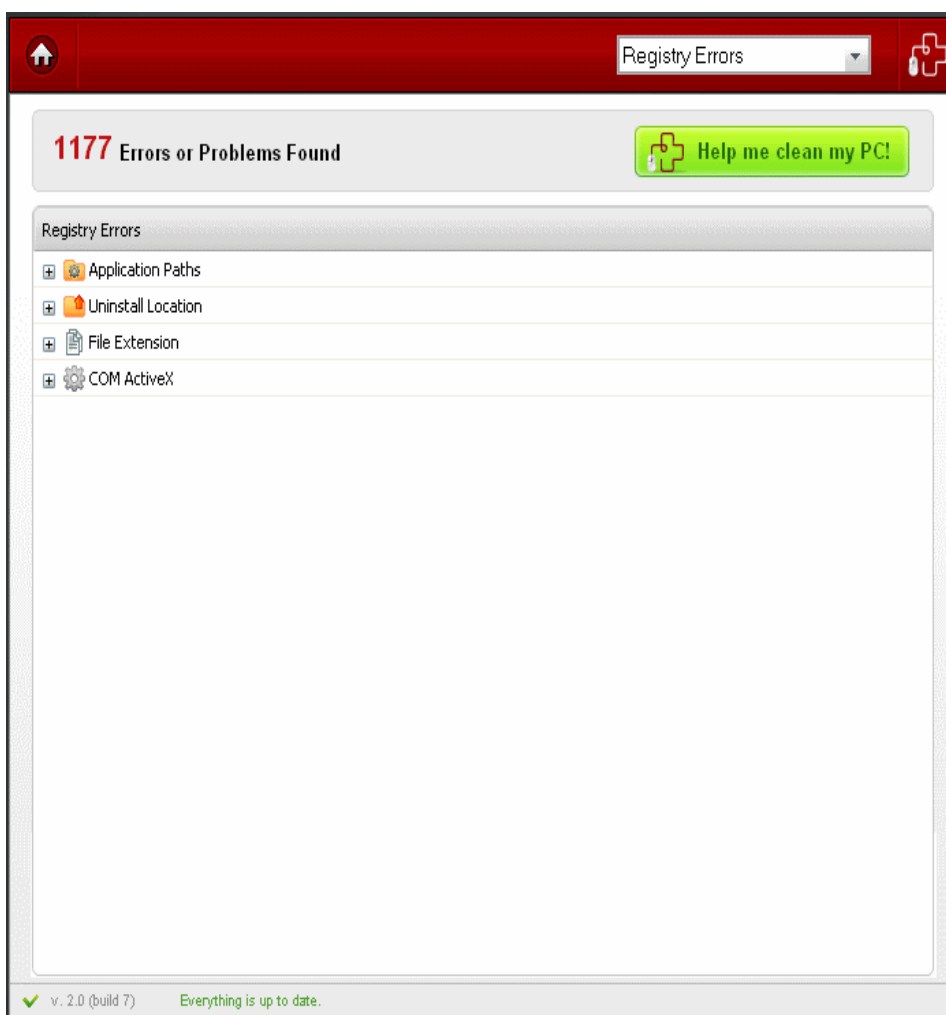
To view more details about a particular entry in the list, click on '+' symbol to the left of the entry.
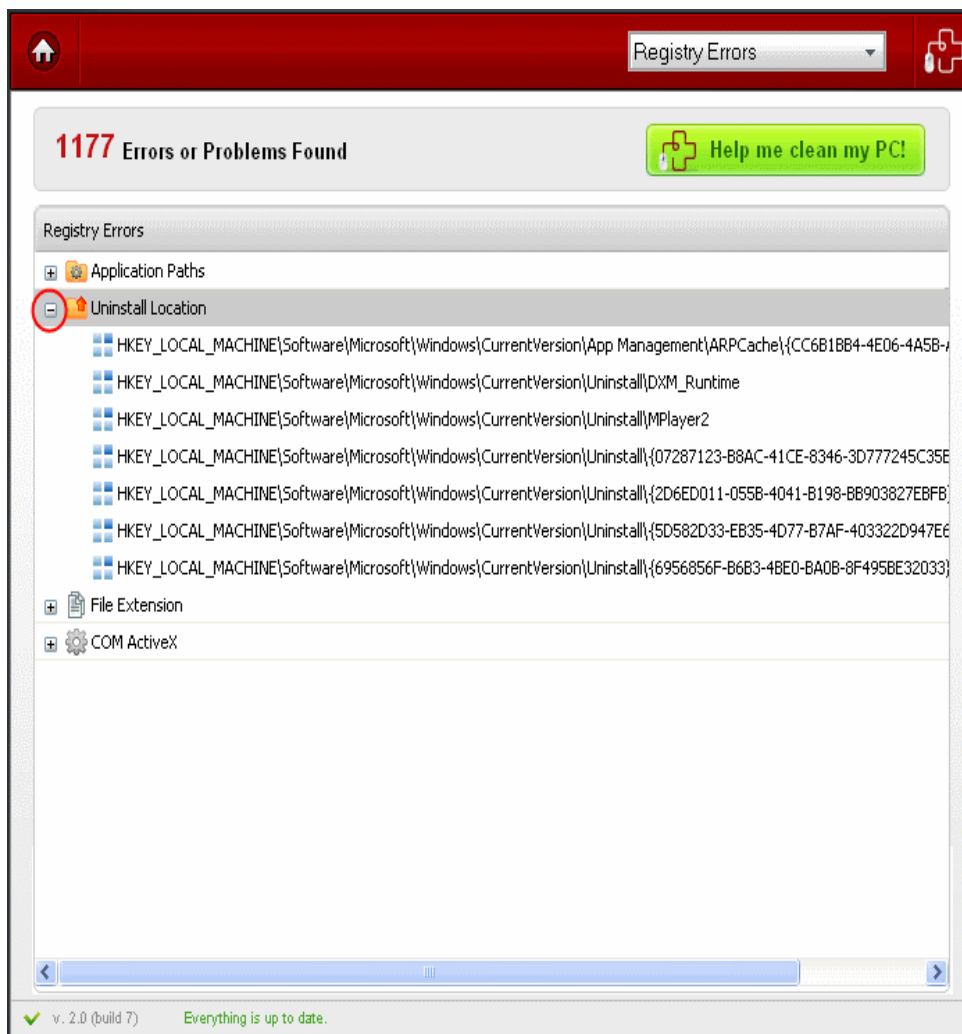
All the identified corrupted and unwanted Registry entries are listed. These are to be removed to improve the stability and performance of your system.

To fix problems with your registry:

•   Get our experts to fix them remotely. Click the 'Help me clean my PC' button and get a revolutionary support service designed to make your life easier. Find out more at **http://www.livepcsupport.com**. Alternatively, read more about the service in section **3.1 LivePCSupport** of this guide.

•   Download Comodo System - Cleaner. The software is free for life and contains a very powerful registry cleaner. Find out more by visiting **http://www.comodo.com/home/support - maintenance/system - cleaner.php** or section **3.2.2 Comodo System - Cleaner** of this guide.

2.4.4. Junk Files

Junk or garbage files, like temporary files created by Windows, user, files retained in the Recycle bin, Windows log files, temporary Internet files, temporary files created by Office Suite etc., may occupy a considerable space in your hard disks. Identification and removal of these junk provide more space for the applications in progress to store their data at an easy reach and improves the access speed and enhances the overall performance of your system.

To view the list of junk/garbage files that occupy the disk space wastefully in your system, click on the 'Junk Files' bar.

The identified junk files are listed in the results pane. Removing these files recovers the disk space for use by other running applications and improves the speed and performance of the system. To view more details about a particular file in the list, click the '+' symbol to the left of the file name.
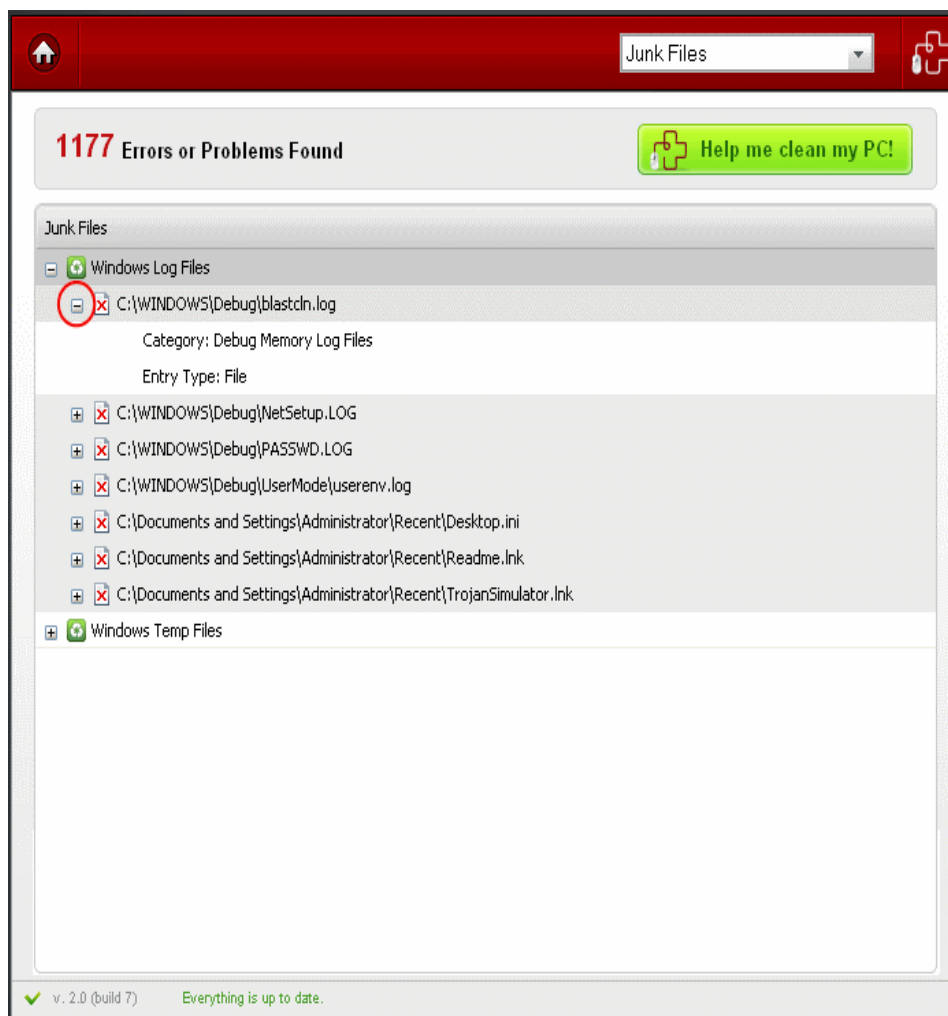
To remove junk files from your system:
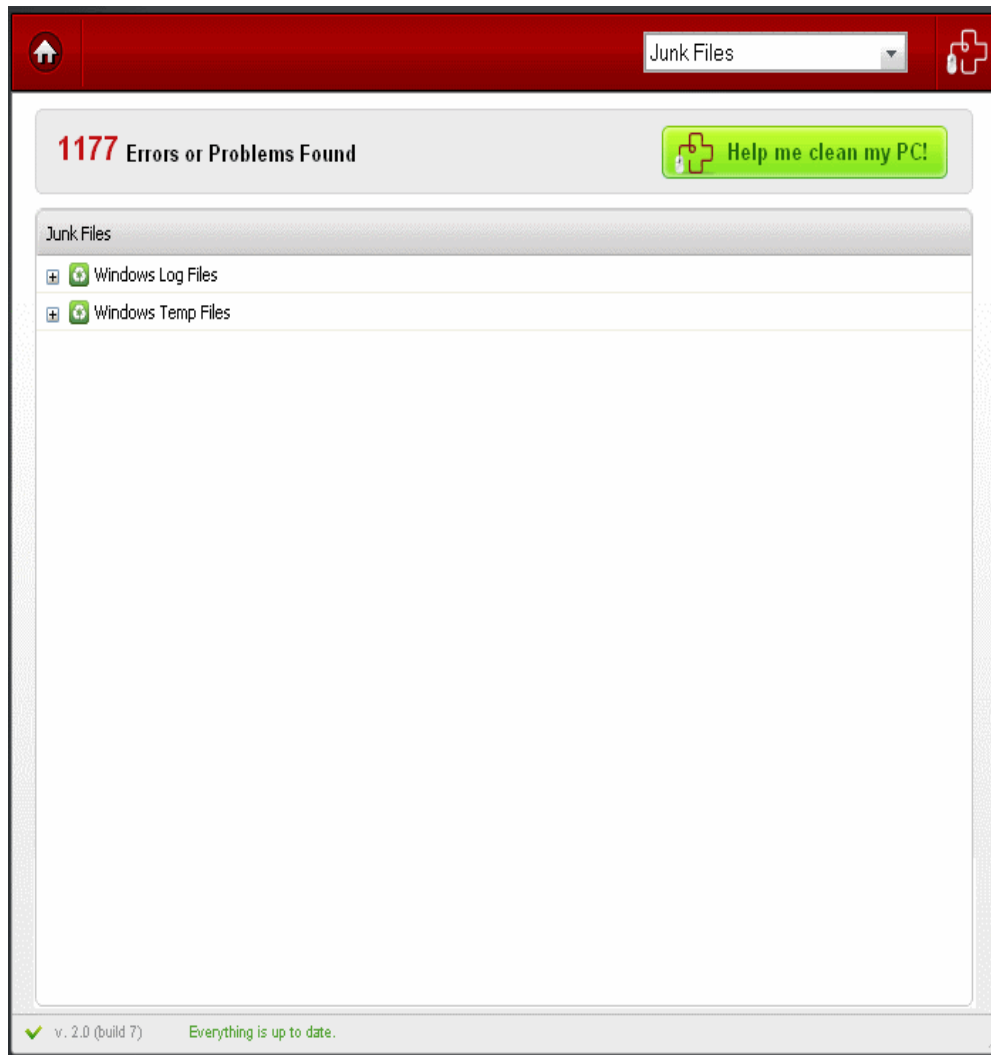
Get our experts to clean them remotely. Click the 'Help me clean my PC' button and get a revolutionary support service designed to make your life easier. Find out more at **http://www.livepcsupport.com**. Alternatively, read more about the service in section **3.1 LivePCSupport** of this guide.

Download Comodo System - Cleaner. The software is free for life and contains a very powerful disk cleaner. Find out more by visiting **http://www.comodo.com/home/support - maintenance/system - cleaner.php** or section **3.2.2 Comodo System - Cleaner** of this guide.

3.Clean Your System of Problems

The next step to comprehensive scanning of your system, is to remove the malware and suspicious files, items threatening your privacy, the registry errors and the junk files in order to ensure the stability, speed, overall performance and the security of your system.

Ordinarily, removing these sensitive items from your system safely could be a complicated process. Comodo offers two broad solutions that make this task easy:

Click either 'Help me clean my PC!' or 'Talk to a Live Technician' to open **LivePCSupport**. One of our security experts will remotely connect to your computer, clear out any malware and junk, optimize your PC and troubleshoot any other problems you may have. Why not try out the service free for 30 days?

Download and use award winning Comodo security software. **Comodo Internet Security Suite** will remove all viruses and malware and **Comodo System Cleaner** will fix problems found by the registry, junk file and privacy scanners.

Both products are 100% free for life, too!

3.1. LivePCSupport

Live PC Support offers the quickest, most comprehensive way of getting help with your computer problems. LivePCSupport is carried out by Comodo computer experts establishing a remote desktop connection to your machine and fixing your computer's problems right in front of your eyes. No longer do you need to make time consuming calls to impatient help desk support staff. Instead, just sit back and relax while our friendly technicians do the work for you.

Live PC Support includes the following services:

- **Virus Diagnosis / Removal** - Our technicians remotely clear any detected viruses or malware that is found on your PC.
- **PC Tune Up** - A full system scan to evaluate issues affecting your computer's performance. Fine Tune key areas and improve speed and stability.
- **Internet Login Protection** - Activates your computer's basic security settings to prevent loss of sensitive data and identity theft.
- **Email Account Set Up** - We set up your Internet - based email account—any provider, any account. Great for new computers and novice email users.
- **Software Installation** - Installation of your Comodo products. Includes optimizing the software for maximum security protection and efficiency.
- **Printer Set Up and Troubleshooting** - Installation or updating of printer software and/or drivers, checking ink levels and configuring your printer to work on a wireless or wired network.
- **Green PC** - Optimization of your power management setting based on how you use your computer. Go green and save money on your electric bill.
- **Computer Troubleshooting** - Detailed system check to identify and eliminate basic hardware conflicts in Windows.

Please visit **http://www.livepcsupport.com** for more details.

Get Started with the Service

- Click 'Help me clean my PC!' button or [icon] button after completion of your scan by the Comodo Cloud Scanner.

Note: The 'Help me clean my PC!' button becomes active only on completion of the scanning process.

The Live PC Support options dialog will be displayed.
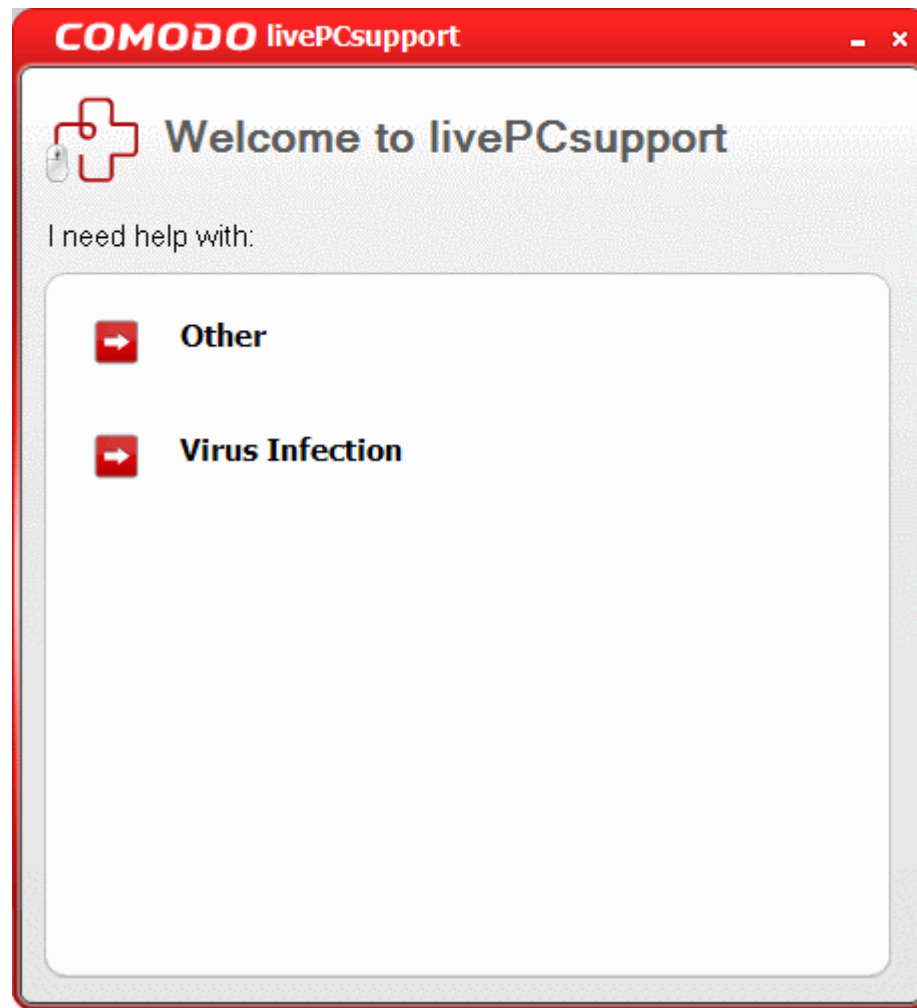
Select the type of service you need:

- **Other** - Select if you need assistance in removing registry errors, privacy issues, junk files, and other Windows/System related problems.
- **Virus Infection** - Select if you need assistance in removing viruses, malware etc. from your system.

You will be connected to the technician skilled in the specific area. Clicking any of the options will open the registration screen.
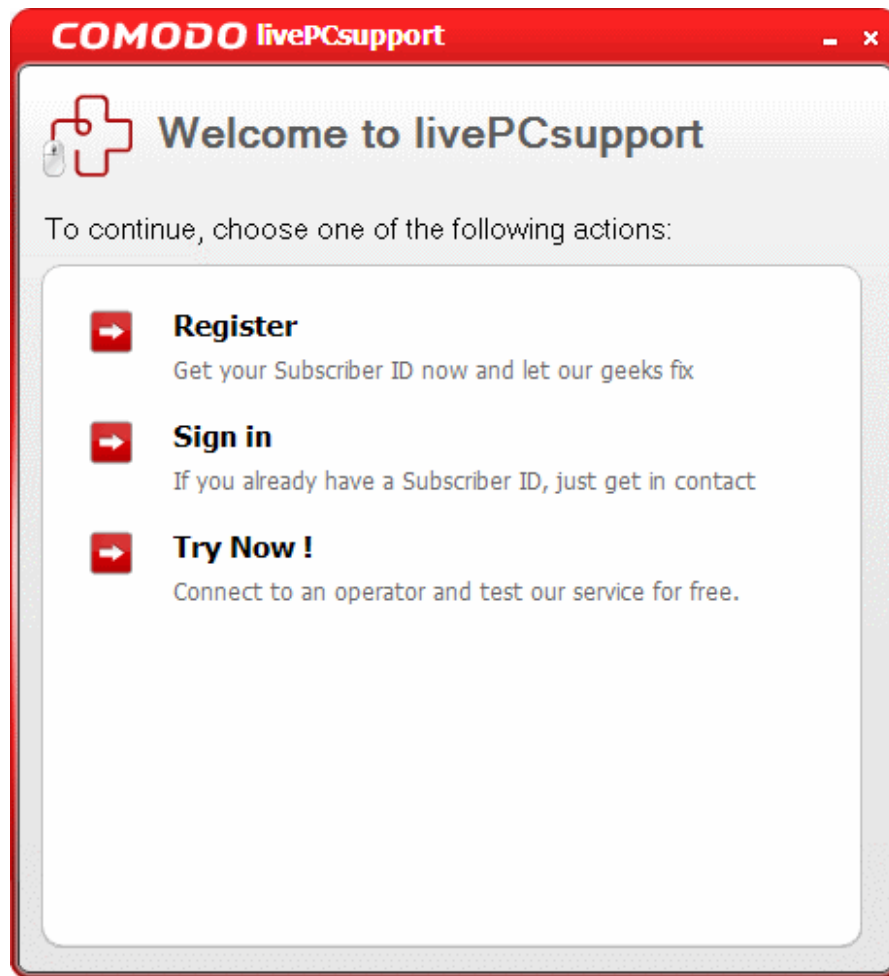
Try Now - The easiest and fast way to get the services is by clicking the 'Try Now!' link. Within seconds, a Comodo Support Technician will respond in a chat window and ask you to describe the problem.
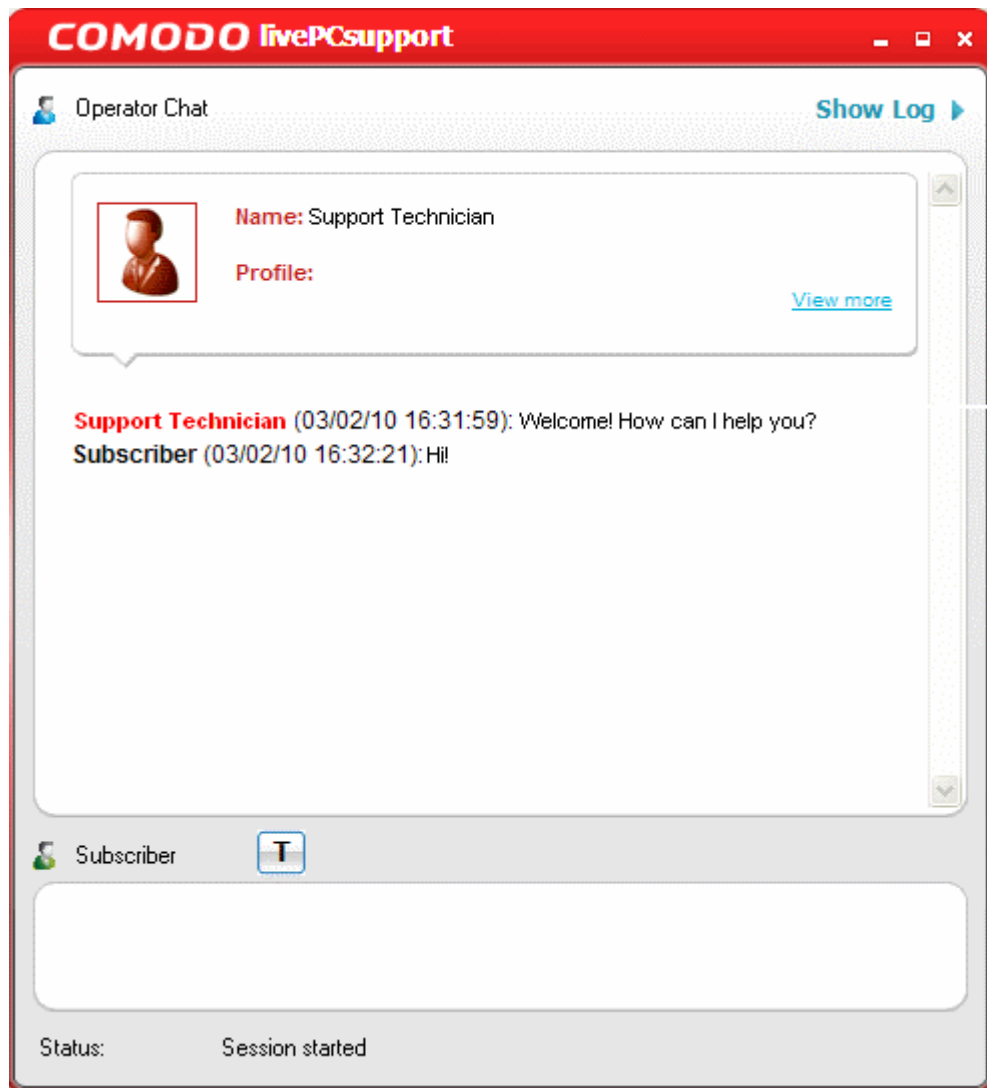
- Explain that you have just run a Comodo Cloud scan on your computer. The technician will access your computer through a remote desktop and fix items identified by the Cloud Scanner. The trial service does not require a subscription.

Register - Clicking the 'Register' link will take you to the LivePCSupport trial sign - up page.
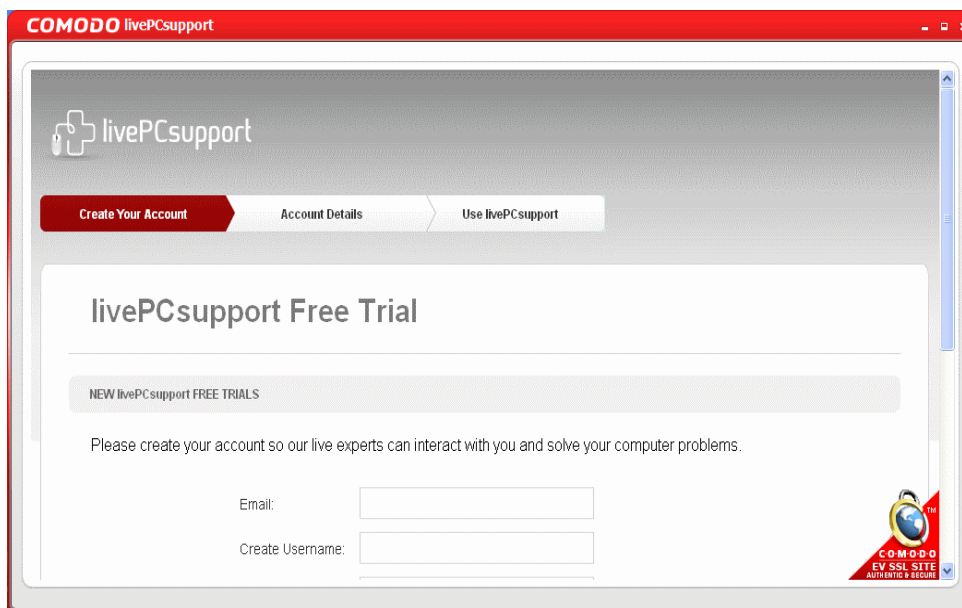
- • Follow the sign up procedures. Your subscription ID will be sent to you by email.

Sign - in - Click this button if you already have a subscription ID. At the login box:

- • Enter the Subscription ID you received through email...

...and click 'Next'. Within seconds, a Comodo Support Technician will respond in a chat window and ask you to describe the problem.

- Explain that you have just run a Comodo Cloud scan on your computer. The technician will access your computer through a remote desktop and fix items identified by the Cloud Scanner.

3.2. Use Comodo Free Products

Comodo offers a wide range of security products and desktop utilities for free. For every requirement in ensuring security and performance of your system, you can find a product from Comodo. Award winning Comodo Internet Security (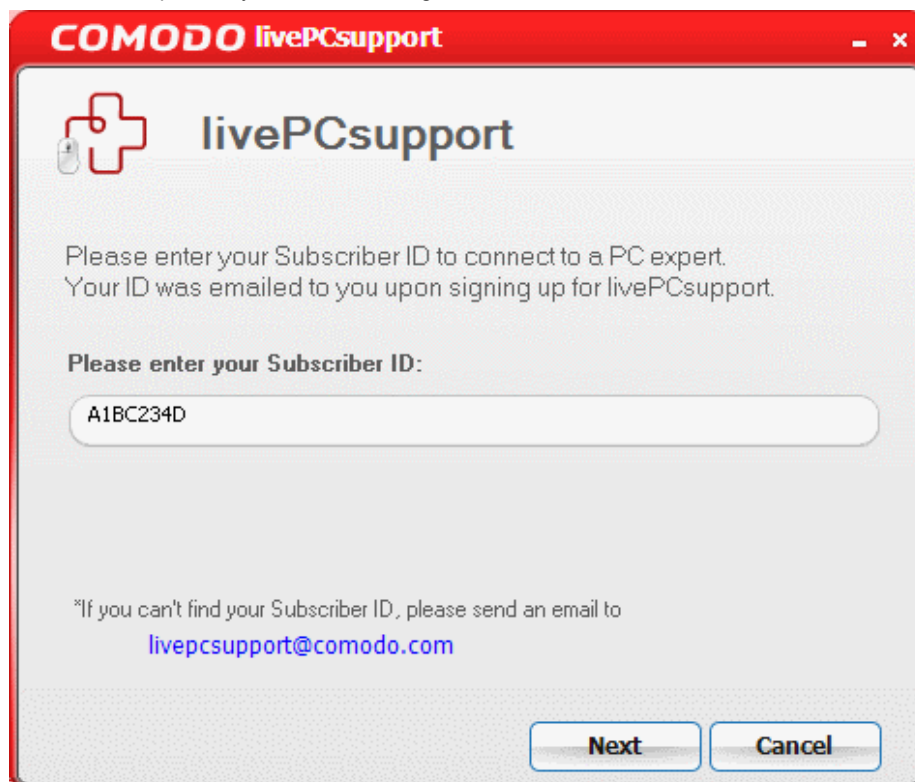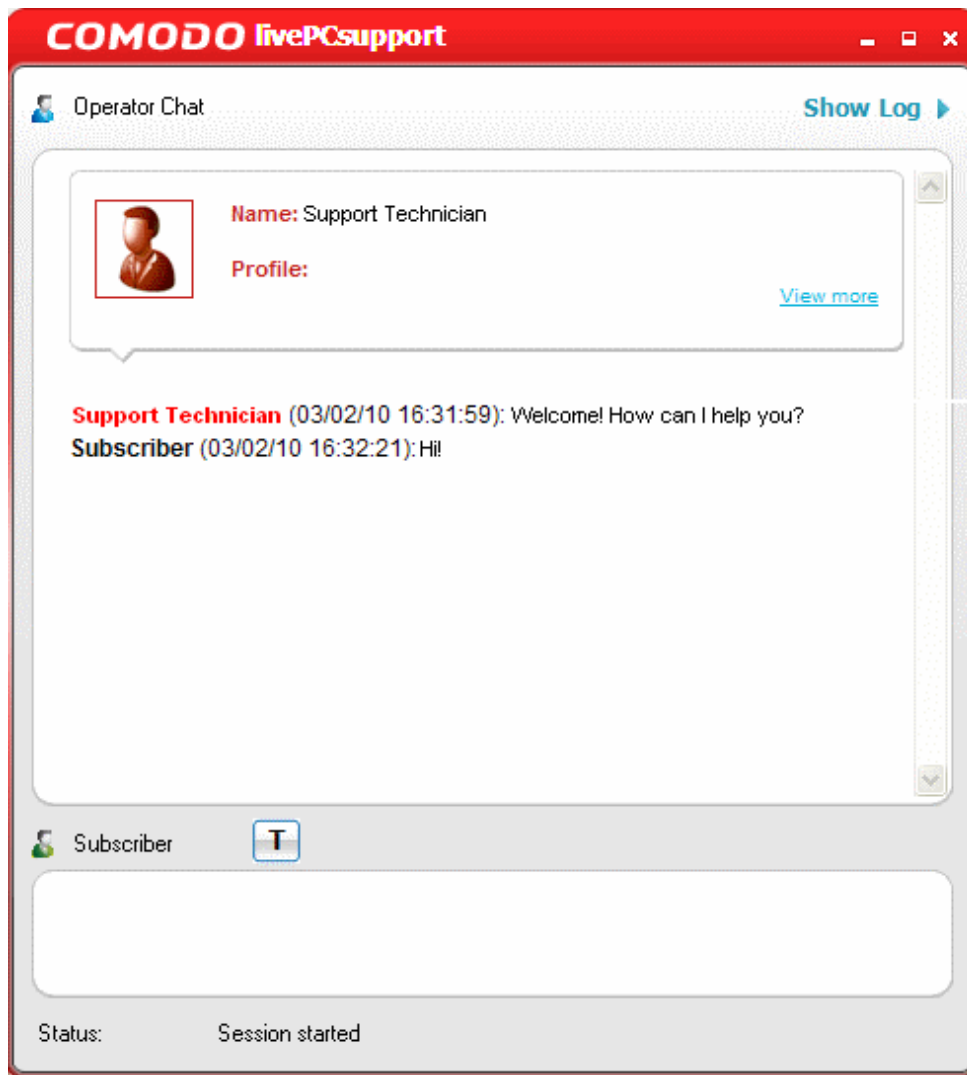CIS) is proactive in removing the viruses, malware, rootkits and Trojans and also includes a powerful packet filtering firewall and an advanced host intrusion prevention system. Comodo System - Cleaner (CSC) is a suite of powerful utilities to clean - up your Windows registry, get rid of junk files from your hard disks and clearing your privacy traces. It also enables you to tweak your system's security, performance and usability. You can download and deploy these products to remove the malware and suspicious files, registry errors, privacy items and junk files from your system and enhance the overall performance of your system. Click the links below for more details on these products.

- **Comodo Internet Security**
- **Comodo System Cleaner**

3.2.1. Comodo Internet Security

Comodo Internet Security (CIS) offers 360° protection against internal and external threats by combining a powerful Antivirus protection, an enterprise class packet filtering firewall, and an advanced host intrusion prevention system called Defense+. When used individually, each product delivers superior protection against its specific threat challenge. When used together as a full suite they provide a complete 'prevention, detection and cure' security system for your computer.
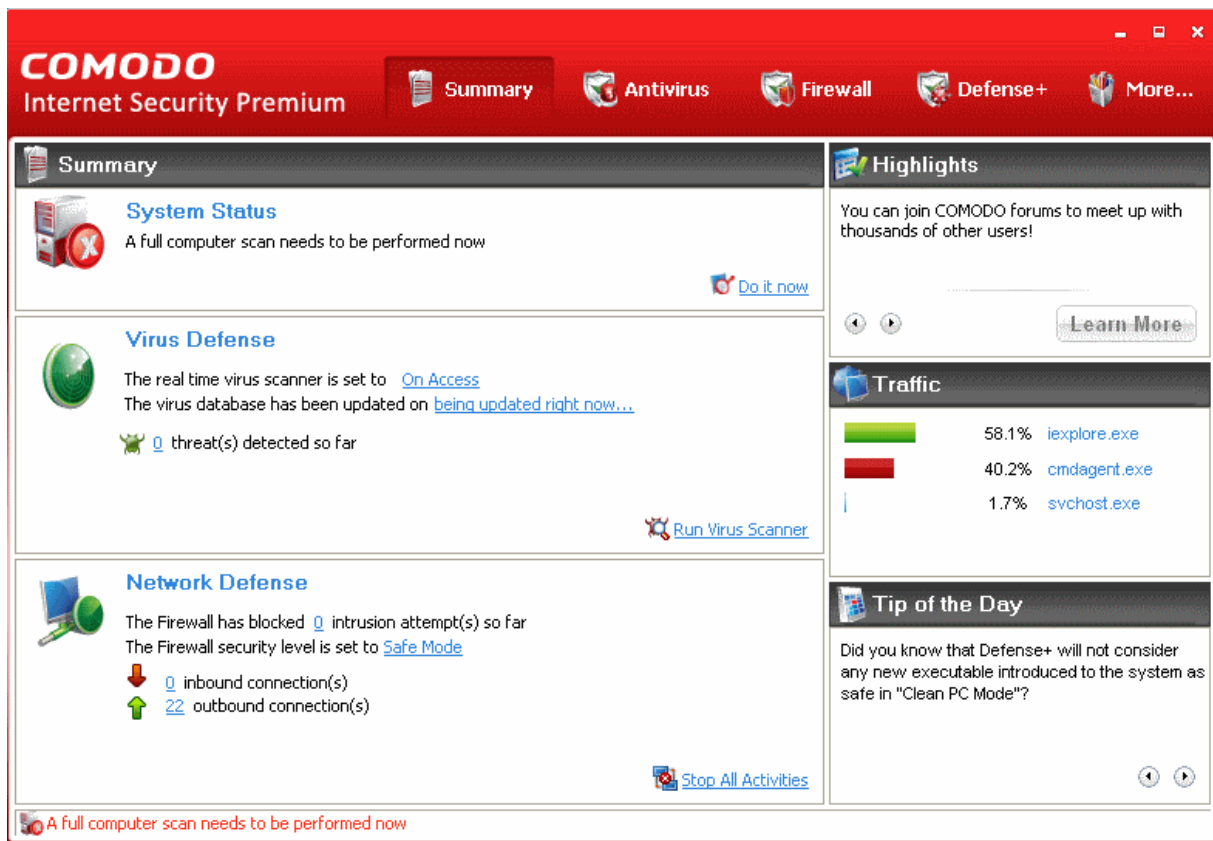
Features

Comprehensive Antivirus Protection

- Detects and eliminates viruses from desktops, laptops and network workstations;
- Employs heuristic techniques to identify previously unknown viruses and Trojans;
- Constantly protects with real - time, On - Access scanning;
- Highly configurable On - Demand scanner allows you to run instant checks on any file, folder or drive;
- Seamless integration into the Windows operating system allows scanning specific objects 'on the fly';
- Daily, automatic updates of virus definitions;
- Isolates suspicious files in quarantine preventing further infection;
- Built in scheduler allows you to run scans at a time that suits you;
- Simple to use - install it and forget it - Comodo AV protects you in the background.

Advanced Network Firewall Engine

The Firewall component of Comodo Internet Security offers the highest levels of perimeter security against inbound and outbound threats - meaning you get the strongest possible protection against hackers, malware and identity thieves. It possesses improved features like:

- Stealth Mode to make your PC completely invisible to opportunistic port scans;
- Wizard based auto - detection of trusted zones;
- Predefined Firewall policies allow you to quickly implement security rules;
- Diagnostics to analyze your system for potential conflicts with the firewall and much more.

Defense+ Host Intrusion Prevention System

Virtually Bulletproof protection against root - kits, inter - process memory injections, key - loggers and more;

Authenticates the integrity of every program before allowing it to load into your computer's memory;

Alerts you every time an unknown or untrusted applications attempts to run or install;

Blocks Viruses, Trojans and Spy - ware before they can ever get onto your system;

Prevents unauthorized modification of critical operating system files and registry entries.

You can get more details and download the product from **http://www.comodo.com/home/internet - security/internet - security - pro.php**.

3.2.2. Comodo System - Cleaner

Comodo System - Cleaner (CSC) is a suite of utilities designed to improve the security, performance and usability of Windows 7, Windows Vista and Windows XP computers. It allows users of all experience levels to thoroughly clean their systems of damaging and/or wasteful files, tune various settings of their Windows configuration, diagnose hardware and software problems and generally enhance the performance of the system. The application also features several privacy utilities such as powerful history and usage trail deletion tools.
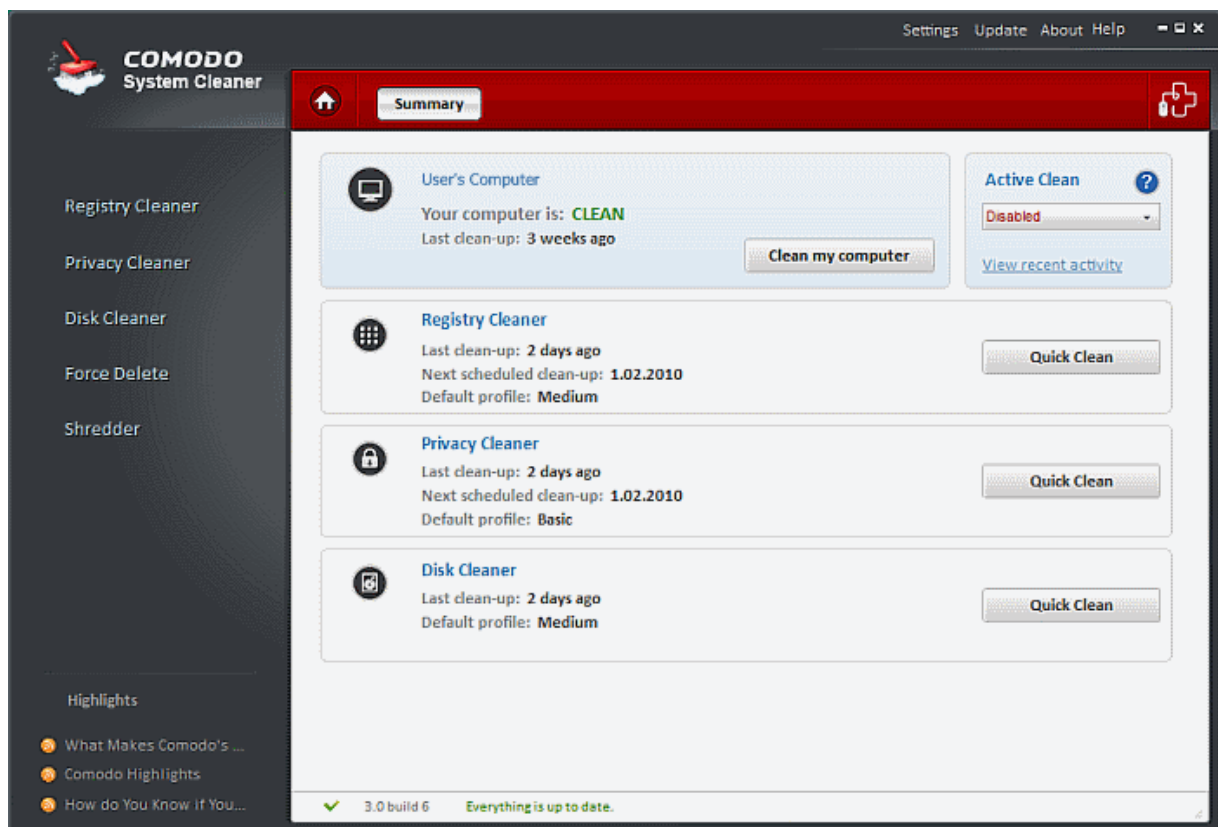
Features

Clean - up Tasks:

- **Registry Cleaner** - Optimizes and repairs your Windows registry by running an in - depth scan to identify, remove or repair any unnecessary or corrupted entries. After running a scan, Windows will be able to access the information it needs from the registry much more quickly - meaning your computer will get an immediate performance and stability boost.

- **Disk Cleaner** - Over time your disk drives become cluttered with temporary Internet files, logs, needless archives, unused icons and duplicate files. This utility lets you quickly clear them all to free up space and improve performance. Also allows you to schedule regular clean up routines.

- **Privacy Cleaner** - Obliterate your digital paper trail by cleaning history, cache, cookies and usage records from Internet browsers, Windows locations and popular software.

Utilities:

- **Autorun Manager** - Enables you to control exactly which programs and services start with Windows to improve Windows boot up time and overall system performance.

- **File Pend Delete** - Enables you to delete or move locked and inaccessible files.

- **File Wiper** - Enables you to permanently delete files from your disks for protection against potential leak of your confidential information.

- **System Information** - Detailed and easily accessible 'dashboard' summary of all the hardware and software installed on your computer. Fast access to such details can be invaluable when you are considering hardware upgrades, the ability of your computer to run certain software and can assist you when judging whether to alter important system settings.
- **System Settings** - Unlock the full potential of your Vista, XP or Windows 7 computer by quickly customizing otherwise obscure Windows settings with point and click ease. With over 50 tweaks in the 'System Settings' area alone, you can optimize Windows behavior in a more powerful and intuitive way than ever before.

You can get more details and download the product from **http://www.comodo.com/home/support - maintenance/system - cleaner.php**.

4.Uninstalling Comodo Cloud Scanner

To uninstall Comodo Cloud Scanner

1. Click Start > Settings > Control Panel

2. In the Control Panel, double - click Add/Remove Programs

3. In the list of currently installed programs, click Comodo Cloud Scanner

4. Click the 'Remove' button.

Or

- Click Start > All Programs > Comodo > Cloud Scanner > Uninstall Comodo Cloud Scanner.
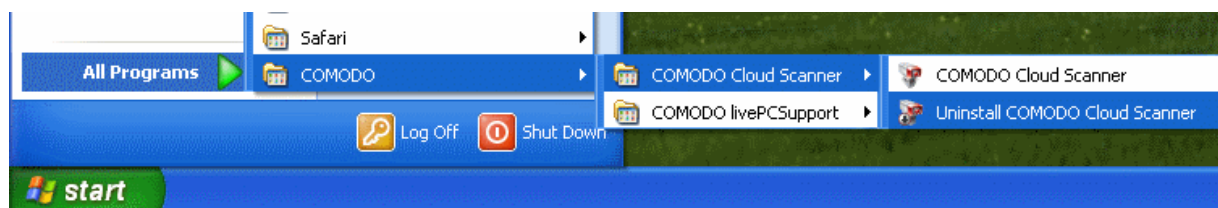
The Uninstallation wizard will be started.
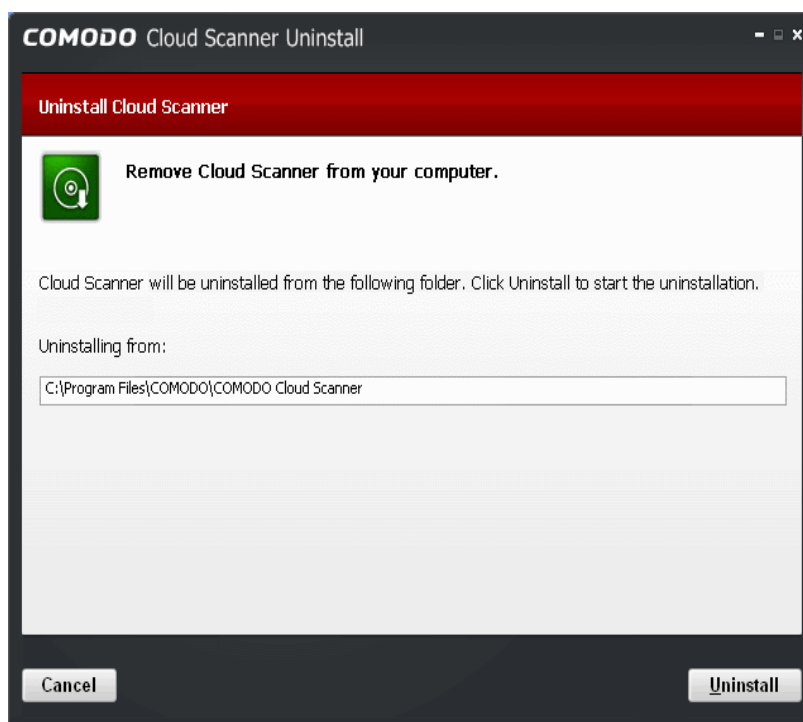
- Click 'Uninstall' to continue. The Uninstallation progress will be displayed...
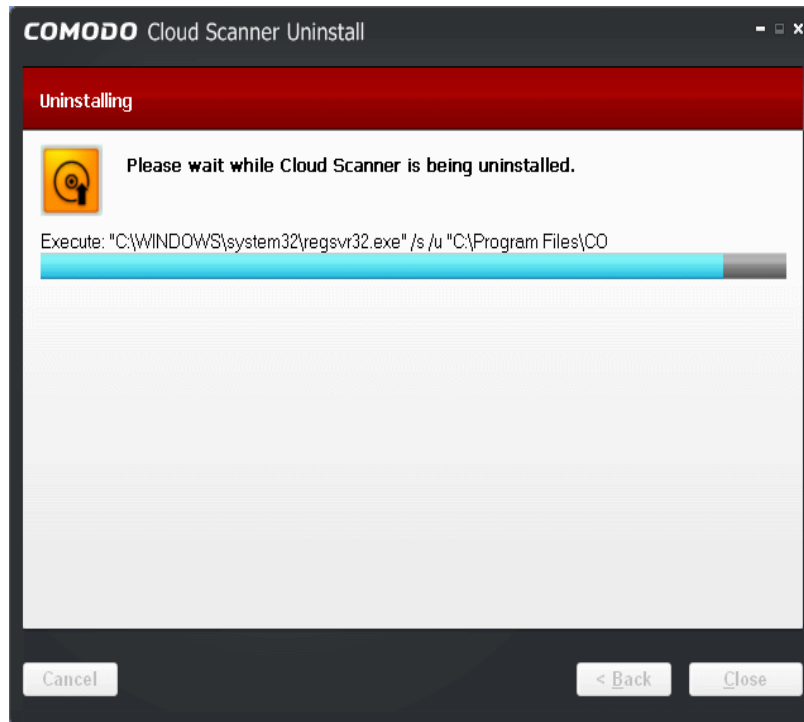
...and on completion, the 'Uninstallation Complete' dialog will be displayed.
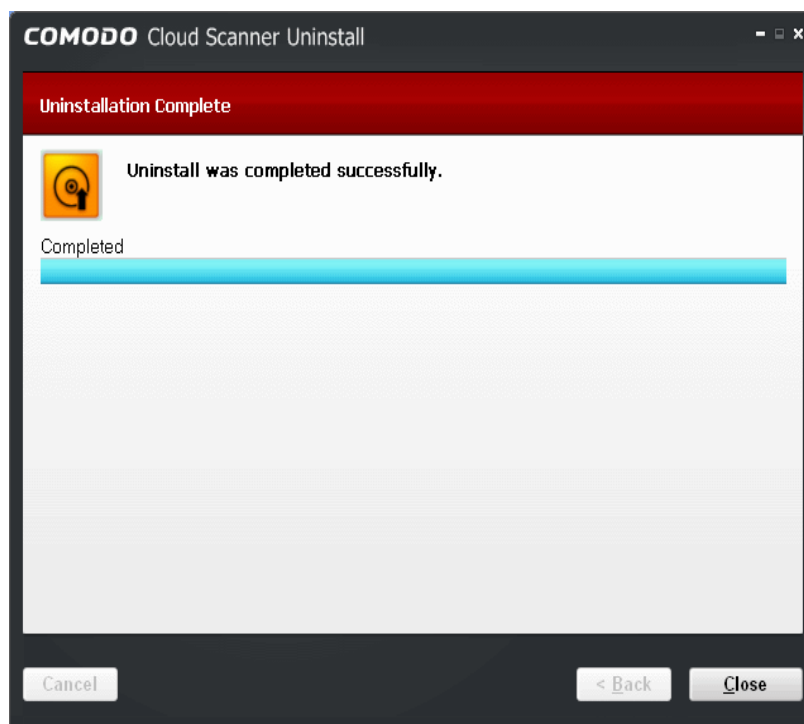
- Click 'Close' to finish the process. For the uninstalltion to take effect, you need to restart your system.
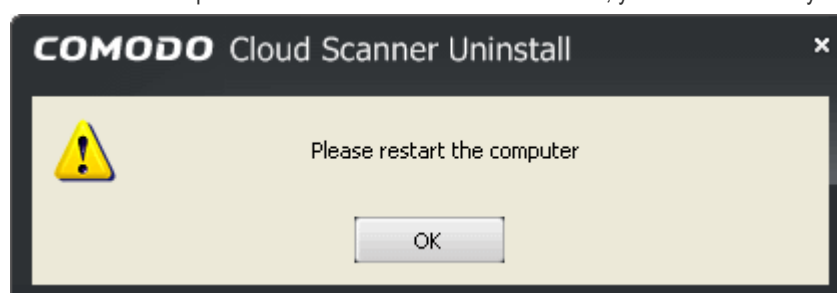
- Click OK... Save any unsaved files, close all the other applications and restart your system.

Note: The Uninstallation takes effect only on the restart of the system.

Appendix 1 - The Windows Registry Explained

Introduction

Whenever a user installs a software program/application, a hardware or a device driver for a newly connected hardware in a Windows based computer system, the initial configuration settings of these are stored as keys and values in a system defined, central hierarchal database repository called Windows Registry. During the usage of the software or the hardware, the changes made to these configurations are updated in the registry. Also, the changes made to Control Panel settings, file associations, Windows components and so on, during the use of the computer, are updated in the registry.

The software and the system components retrieve their latest configuration from the registry during their run - time to continue their operation as per the settings made by the current user. The registry also serves as an index to the operation of the kernel, revealing run - time information of the system.

Registry is a critical factor for stability, reliability and performance of a computer. Most of the computer problems are caused by system registry errors. Invalid registry keys left as traces by applications that are no more used or uninstalled from the computer, and so on, may cause troubles including degradation in system performance in terms of operating speed, reliability etc., crashes, stalls and so on.

Purpose

The Windows Registry serves as an archive for collecting and storing the configuration settings of Windows components, installed hardware/software/application and more. A Windows component, hardware or a software, retrieves the registry entries or keys relating to it, every time it is started. It also modifies the registry entries or keys corresponding to it, in its course of execution. When keys are added to the registry, the data are sorted as computer - specific data or user - specific data in order to support multiple users.

Location

In Windows NT based operating systems like Windows XP, 2000, and 2003, the Registry files are stored in the Windows\System32\Config folder. These files are named:

- Software;
- System;
- SAM;
- Security;
- Default; and
- UserDiff.

These files do not have a file extension. The information contained in these files are explained later.

Apart from this, in the Documents and Settings folder corresponding to each user of the system, one more Registry file named NTuser.dat is stored. The NTuser.dat file stores all the preferences/settings specific to the user. These settings will override settings default settings of the system when the user logs - in.
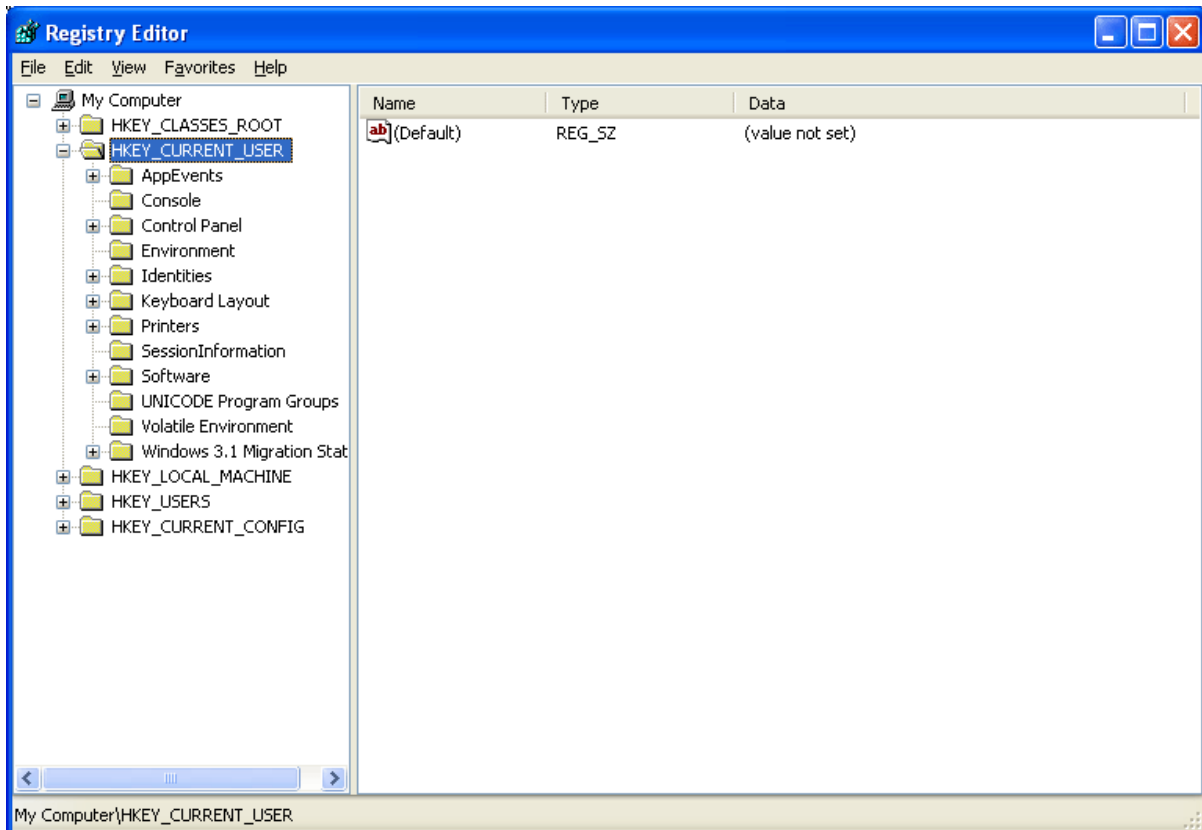
Accessing the Windows Registry

You can view the registry files by running the **regedit** command.

To view the registry files
1. Click Start > Run...

2.   Type **regedit** in the **Open:** box.

3.   Click **OK.**

Structure of the Windows Registry

The Windows Registry has a structure similar to Windows folders and files. Each main folder is named as a **Hive**. Each hive contains sub folders called **Keys**. These keys contain subkeys with configuration values for each software program/system component of the computer. There are five main Hives, whose descriptions are listed below:

HKEY_CLASSES_ROOT -The software settings about the file system, shortcut information, information on file associations and other user interface information are stored in this hive. The file association information are essentially used by Windows to invoke the correct program when a file is opened using Windows Explorer.

HKEY_USERS - The configuration settings for each hardware and software item in the computer system, corresponding to each of the users of the computer system are stored in this hive. The information on the user's folders, user's choices of themes, colors and Control Panel settings are stored here as user's profile. This hive has a subkey for each user storing his/her user's profile.

HKEY_CURRENT_USER -The configuration settings for each hardware and software item in the computer system, corresponding to the currently logged - on user are stored in this hive. This hive is dynamic, i.e. whenever a user logs - on into the system, the settings corresponding to the user are retrieved from the respective subkey of H_KEY_USERS as user profile and stored in this hive. If a currently active item modifies a registry entry in its course of operation, the change will affect only the current user.

HKEY_LOCAL_MACHINE - The configuration settings for hardware and software for all users of the computer are stored in this hive. The information stored here is computer specific and not user specific.

HKEY_CURRENT_CONFIG - The current hardware configuration settings, pointing to HKEY_LOCAL_MACHINE\Config are stored in this hive. This hive is dynamic, meaning it is built on the run.
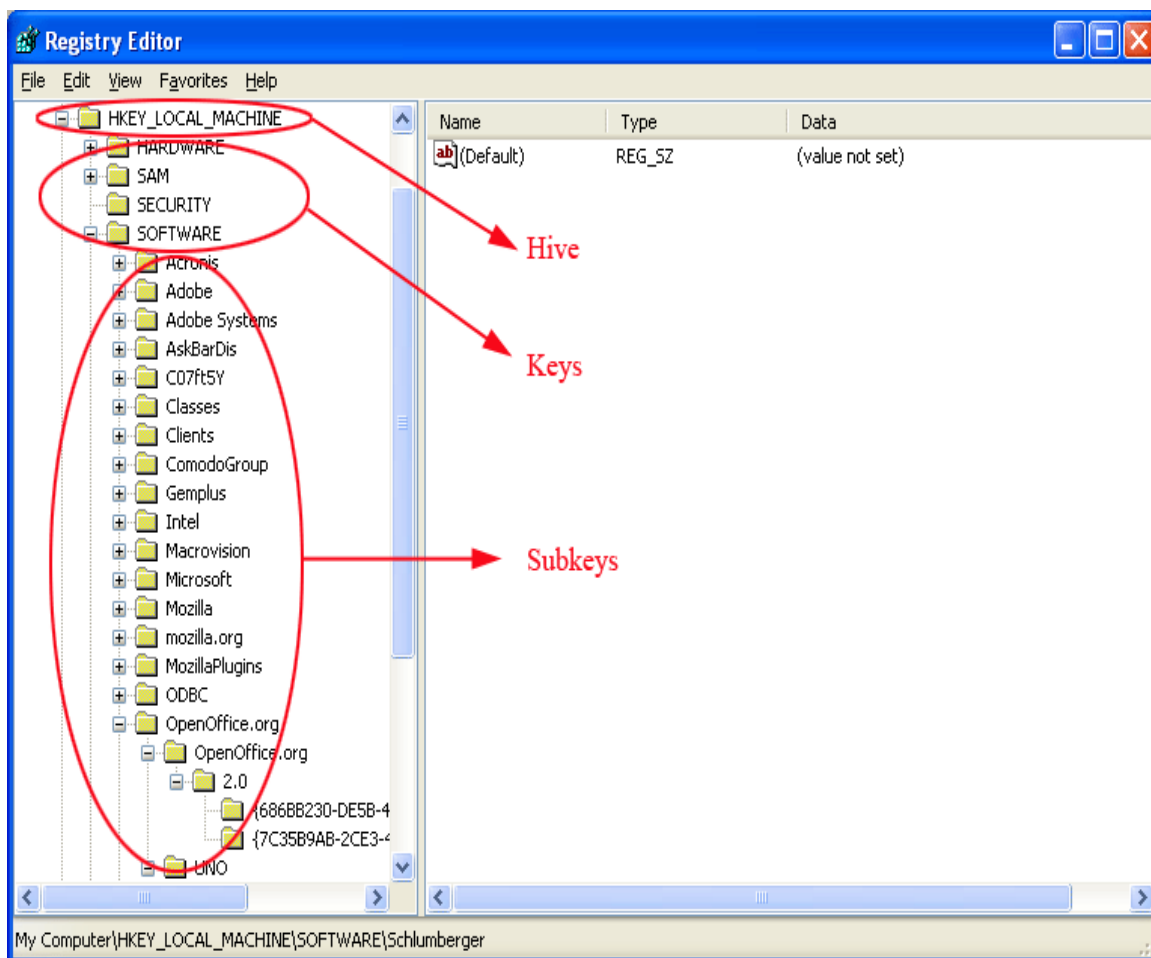
The files in the Windows\System32\Config folder and their associations with the hives are shown below.

File Name	Associated Hive	Information Contained
Software	HKEY_LOCAL_MACHINE\SOFTWARE	Information about all the software items in the system, Windows performance parameters and the default Windows settings.
System	HKEY_LOCAL_MACHINE\SYSTEM	Information about all the hardware items in the system.
Sam	HKEY_LOCAL_MACHINE\SAM	Information about the Security Accounts Manager service.
Security	HKEY_LOCAL_MACHINE\SECURITY	Information about security. Neither of Security and SAM, can be viewed using Regedit, unless you reset the permissions.
Default	HKEY_USERS\.DEFAULT	Default user settings. But the Ntuser.dat file corresponding to the currently logged - on user overrides the default user settings.
Userdiff	Not associated with any hive.	Information about the corresponding subkeys in the HKEY_USERS Hive for each registered user.

How Problems with the Registry can Occur

The Windows Registry keeps accumulating a large number of unwanted, obsolete, and incorrect data which are mostly left by uninstalled programs. The most common reasons for accumulation of the junk entries are:

Installing and uninstalling software programs, particularly video, audio, photo, graphics and games softwares frequently;

Browsing through Internet sites that automatically install components like Active X and accessing unsolicited mails with malicious attachments;

- Adding too many programs into the system;
- Altering Control Panel settings frequently;
- Altering hardware, hard disk, memory, joysticks, monitor, printer or scanner frequently;
- Installing programs with embedded spyware;
- Viruses, Trojan horses and key loggers and so on;
- The accumulation of too many of junk entries over time increases the size of the registry and makes it fragmented and corrupted.

How do the Registry Problems Affect Your System

The Windows registry which is increased in size due to accumulation of junk entries, fragmented and corrupted due to the traces left by improperly uninstalled programs leads to:

- Degradation in performance of the computer system. The operating speed of the system will be notably reduced, as each active process/application takes a longer time to refer to registry and acquire/modify its registry entry. The time - out problem also leads to frequent program error messages;
- Reduction in reliability. The active process/application may not be able to reach its respective registry entry due to fragmentation of registry of increased size, resulting in unexpected termination of the programs. This makes the user to lose any unsaved data;
- Reduction in stability. The fragmented, slow registry takes a long time to fulfill requests sent to it by the active programs and hardware devices and causes system freezes and rebooting;
- System crash. Excessive damage to the Registry can even make the system unbootable.

Why do you need a Registry cleaner

When you notice a reduction in the operating speed of your computer, repeated freezes or taking a longtime to startup, you can take the indication as starting of degradation of your registry. Your registry needs a clean - up, meaning that the obsolete, unwanted and invalid entries must be identified from your registry and to be deleted. You can manually edit your registry and fix these problems yourself, if you're a computer expert.

As a word of caution, performing a registry cleanup using the Registry Editor is not so easy and safe. The probability of unknowingly altering or deleting a registry entry, vital for the healthy operation of your system, is incomparably higher than that of deleting the entry to be actually deleted. Your system may be irreparably damaged.

It is always recommended to use a Registry cleaner software regularly to tidy up your systems registry. A registry cleaner scans your registry and detects the unwanted entries to be removed. It deletes the unwanted entries only after your confirmation and leaves the vital registry entries intact. This ensures that you can restore your systems health and performance within a few mouse clicks without the fear of damaging your system. There are no chances for removing any vital entries and hence is safe.

Benefits of Using a Registry Cleaner

The registry cleaner software not only scans your systems registry for detecting and cleaning any unwanted registry entries but also defragments your systems registry, making it compact and leaving some available free space in your hard drive.

- The active processes/applications are enabled to seamlessly access their corresponding registry entries, both for acquisition of the configuration settings and to alter them in the course of their execution. The operating speed of the system increases and the system is restored to its highest level of performance. The annoying error messages can be avoided.
- The active processes/applications can reach their corresponding registry quickly and without fail avoiding unexpected termination of programs. The users need not lose any unsaved data and system is rendered reliable.
- The clean, compact and fast registry can cater to the requests sent to it by the active programs and hardware devices promptly, avoiding system freezes and rebooting. This adds up to the stability of the system.
- The newly installed software programs can easily create registry entries and store their configuration settings in a

clean registry.

Prevention is better than cure. Instead of waiting for your Registry to build up debris and cleaning it, regular cleaning of it at a set frequency maintains the health of the system consistently. The Registry cleaner software offer scheduling facility, wherein you can set scheduled scans and clean your registry. Even if you forget to start registry cleaning, the registry cleaner automatically runs a scan and cleans your registry at scheduled times. Regular cleaning of your registry does not give a room for registry damage and your system is totally protected from system crash.

The registry cleaner software also backs - up your systems registry before performing every clean - up, providing you with an option of reverting your system to an early stage, in case you need do it.

Apart from cleaning your registry, some Registry cleaner software also aid in optimizing your systems performance. One of the reasons for slow start - up and reduction in your systems operating speed other than the registry problems, is number of start - up programs. Even though, there are certain startup programs which are essential for your computer to function, there are some that are usually configured to load at startup when you install those applications. These programs are usually not required until you actually use the application they belong to, and the rest of the time they run in the background unnecessarily, consuming system resources. You can use **msconfig** command to select the programs to be loaded during start - up, but again, it is not easy and safe.

About Comodo

The Comodo companies are leading global providers of Security, Identity and Trust Assurance services on the Internet. Comodo CA offers a comprehensive array of PKI Digital Certificates and Management Services, Identity and Content Authentication (Two - Factor - Multi - Factor) software, and Network Vulnerability Scanning and PCI compliance solutions. In addition, with over 10,000,000 installations of its threat prevention products, Comodo Security Solutions maintains an extensive suite of endpoint security software and services for businesses and consumers.

Continual innovation, a core competence in PKI and a commitment to reversing the growth of Internet - crime distinguish the Comodo companies as vital players in the Internet's ongoing development. Comodo, with offices in the US, UK, China, India, Romania and the Ukraine, secures and authenticates the online transactions and communications for over 200,000 business customers and millions of consumers, providing the intelligent security, authentication and assurance services necessary for trust in on - line transactions.

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For additional information on Comodo - visit **http://www.comodo.com**.