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XP Recovery Console

Bringing Windows back from the brink is tricky enough even if the operating system launches. And if XP refuses to boot up, you could be left staring at a black-and-white screen. Thanks to its Recovery Console feature, this needn't mar your day. But tread carefully, says Jason Whittaker

At some point or other, most of us have had to boot our PCs into Safe mode to deal with driver conflicts or bugs that have crashed Windows. What do you do, though, if Windows won't boot up at all? System files can corrupt and applications sometimes overwrite an important file with an older, incompatible version. While Windows XP is generally very good at preventing such things, no system is immune.

With Windows 95 or 98, there is always the possibility of booting into DOS, so that at least it is possible to copy files to another disk or even carry out basic

repair work. Windows XP, however, won't boot into DOS, although a command line is available. Rather than reformatting your PC, there is an alternative: the Recovery Console opens a command line for you so that you can repair the operating system.

Command and conquer

As a means of repairing your installation without the hassle of wiping the hard drive and losing valuable data in the process, Recovery Console is one of the best kept secrets of Windows XP.

Using the Recovery Console you can read data stored on the hard disk of your

Starting up Recovery Console



If you do not have Recovery Console installed on your hard drive (see *Installing the Recovery Console*) you will need to launch it from your Windows operating system disc. If you have installed the Recovery Console to your hard drive, select it from the options menu during startup and follow these instructions.

1 If prompted, select any options needed to launch Recovery Console from the disc and, when the text-based part of Setup begins, choose the repair or recover option by selecting R. (If your PC boots into multiple operating systems you will need to select XP to access the Recovery Console.) When prompted, enter the Administrator password. To leave the Console and restart the computer, simply type exit

```
Microsoft Windows XP Professional Setup Recovery Console
The Recovery Console provides system repair and recovery functionality.
Type EXIT to quit the Recovery Console and restart the computer.

C:\WINNT
Which Windows installation would you like to log onto
(To cancel, press ENTER)? 1
Type the Administrator password: *****
C:\WINNT>
```

2 You will now see the system prompt. From here, you will be able to enter the commands listed in the Recovery Console Commands boxout – for example, copying files from one folder to another

```
C:\>dir
The volume in drive C has no label.
The volume Serial Number is c496-ec18

Directory of C:\

01/18/02 01:12p d----- H ActionMedia
10/14/01 04:14a -a----- H AUTOEXEC.BAT
10/14/01 04:57a -a-p----- 288 boot.ini
10/14/01 04:14a -a----- H CONFIG.SYS
04/18/02 11:20a d----- H Far
07/22/02 02:15p -a----- 245 INSTALL.LOG
10/14/01 04:14a -arh----- H IO.SYS
01/18/02 01:26p -a-p----- 6555648 MP3.MBT
02/04/02 12:14p d----- H Microsoft Visual Studio
10/14/01 04:14a -arh----- H MSDOS.EYS
10/14/01 06:23p d----- H Multimedia Files
10/14/01 06:28p -arh----- 26880 NBTSTAT.COM
10/14/01 06:28p -arh----- 156496 ntldr
10/14/01 06:28p -a----- 156496 ntldr.bak
01/15/02 12:37p d----- H Platform SDK
07/14/02 05:24p d----- H Program Files
11/26/01 01:55p d----- H RECYCLES
07/14/02 05:23p d----- H RECYCLES
04/23/02 10:37a d----- H Temp
04/18/02 10:50a d----- H Test
04/11/02 08:43p d----- H WinMax
02/25/02 11:57a d----- H WINNT
22 File(s) 689593 bytes
22480328 bytes free

C:\>copy a:\ntldr c:\>
```

3 Should you need more information on a particular command, type 'help command name'. For example, to get help attrib you should enter information on the command attrib

```
For more information on
command-name /? or HELP

ATTRIB
BAATCH
CD
CHDIR
CHKDSK
CLS
COPY
DEL
DELETE
DIR
DISABLE
DISKPART
ENABLE
EXIT
EXPAND
FIXBOOT
FIXMBR
FORMAT
HELP
LISTSVC
LOGON
MAP
```

PC, as well as copy to and from the drive, format drives if necessary or enable and disable Windows XP services that run in the background and may occasionally prevent the operating system booting up.

The Console is particularly useful when you have to copy files from your Windows CD or from a backup disk as it enables you to extract system files from compressed Windows archives and restore them to your hard drive.

PC users from the days of DOS will be quite familiar with most of the commands available in Recovery mode, but for new users it is worth firing up the Command Prompt from Start, Accessories, Command Prompt and using the more innocuous commands, such as chdir and mkdir.

These are listed in the Recovery Console Commands section, but remember

to back up all your data before experimenting. Some of these commands are extremely powerful and will delete or lose your data if used carelessly.

Picking the right attributes

One of the commonest Recovery Console tasks is changing the attributes for files or folders using the attrib command. You may need to do this if a file is protected by default as read-only, usually because it's a system file. If the original file on the hard drive then becomes corrupted in some way, but you need to make a copy of it, Windows will prevent you from doing so. That's where attrib comes in. The syntax needed to use the attrib command is:

```
attrib [+r] [+s] [+h] [+c]
[drive:/path/filename]
```

A file's attributes are set very simply by using a parameter with the plus sign and cleared using the minus sign. The file attributes are read-only (r), system (s), hidden (h) or compressed (c).

If you enter the command attrib in the same directory in which your file is stored, you don't need to enter a path or drive letter. Otherwise, though, you'll need to. For instance, the command to clear the read-only attribute of the file browser.dll in the System32 folder in Windows would be:

```
attrib -r
C:/Windows/System32/browser.dll
```

You may only change attributes for one file or directory at a time, but multiple attributes for that file or directory can be set with a single command.

Enabling and disabling devices and services

Another common task requires system device drivers or services to be stopped or started. For instance, Windows applications, routines or processes that run in the background and perform specific functions for other applications such as remote access to the OS.

Conflicts between drivers or services are common causes for the OS ceasing to work and you may need to experiment with various configurations to get your system started again. To disable a service, the command is:

```
disable service_name/device_
driver_name.
```

So, for example, to disable the eventlog service you would type:

```
disable eventlog
```

The disable command sets the startup type for a service or driver to service_disabled and, when typed on the screen, displays the name of the previous startup type for that service or device. You should make a note of this in case you need to restore the startup type to its

previous setting. The five startup types are: service_auto_start, service_disabled, service_demand_start, service_boot_start and service_system_start.

To restart the service or driver if it clearly isn't causing the problem with Windows, type:

```
enable service_name/device_driver_
name startup_type
```

Therefore, to enable the eventlog service you would enter:

```
enable eventlog service_auto_start
```

Creating batch files

Batch files execute the commands specified in a text file and are typically created in a text editor such as Notepad. They can contain any of the commands available to the Console but cannot contain another batch file. While they can be used to perform quite sophisticated tasks, the command to use a batch file is extremely simple, consisting of:

```
batch input_file [output_file]
```

The batch command requires an input file; this contains a list of commands to

be executed and may consist of a drive letter and path to a file if it's in a different directory. Output files are not necessary but, if specified, store the results of the commands listed in the input file. If such a file is not specified, the results are output to the screen. For example:

```
batch E:\Batchfiles\find.txt
C:\Batchfiles\results.txt
```

This instruction executes the commands in the file find.txt, contained in the folder batchfiles on the E drive and stores the results in a file called results.txt in the same folder.

Booting up

Sometimes problems with Windows may result from a corrupt boot configuration file (boot.ini). Mostly, Windows boots straight into the graphical interface but before this screen appears some systems are configured to show a series of options – for example, Safe mode or different operating systems for multiboot PCs.

The bootcfg command repairs the boot.ini file and is only available under the Recovery Console. A typical file for a hard drive with only one version of Windows installed would look like this:

Installing the Recovery Console



Fingers crossed, you may never need to get to grips with XP's Recovery Console feature. But if Windows ever fails to start up for some reason, it could just provide a lifeline – so long as you have your Windows OS disc to hand. Install Recovery Console to your hard drive and proceed with caution.

```
Microsoft Windows XP Professional [C:\> Recovery Console]
The Recovery Console provides system repair and recovery functionality.
Type EXIT to quit the Recovery Console and restart the computer.

C:\>DIR
Which Windows installation would you like to log onto
[>] C:
[>] C:
Type the Administrator password: *****
C:\>DIR
```

1 Insert your Windows CD and click Start, Run. Type D:\i386\winnt32.exe /cmdcons, where D is the letter of your CD-ROM drive. Follow the onscreen instructions

2 When your PC boots up, you will be able to select Recovery Console from the Startup menu. You can still boot into the Recovery Console from your CD

```
C:\>dir
The volume in drive C has no label
The volume Serial Number is c496-ec18

Directory of C:\
03/18/02 01:12p d----- @ Active@Home
08/14/01 04:14a -a-r----- @ BOOTSECT.BAT
08/14/01 04:57a -a-r----- 288 boot.ini
08/14/01 04:14a -a-r----- @ CONFIG.SYS
04/10/02 11:28a d----- @ Par
03/22/02 02:15p -a-r----- 265 INSTALL.LOG
08/14/01 04:14a -a-r----- @ IO.SYS
03/18/02 01:12p -a-r----- 455648 NTBOOT
02/04/02 12:16p d----- @ Microsoft Visual Stud
08/14/01 04:14a -a-r----- @ MSDOS.SYS
08/14/01 04:27p d----- @ Multimedia Files
08/14/01 06:28p -a-r----- 26888 NTDETECT.COM
08/14/01 06:28p -a-r----- 156496 acldr
08/14/01 06:28p -a-r----- 156496 acldr.hab
03/15/02 12:37p d----- @ Platform CRM
03/14/02 05:24p d----- @ Program Files
01/26/01 01:55p d----- @ RECYCLED
03/14/02 05:27p d----- @ RECYCLED
04/23/02 10:37a d----- @ Temp
04/18/02 10:58a d----- @ Tools
04/11/02 08:49p d----- @ WinHex
02/25/02 11:57a d----- @ WINNT
22 files(s) 4895993 bytes
224882328 bytes free
```

Deleting the Recovery Console



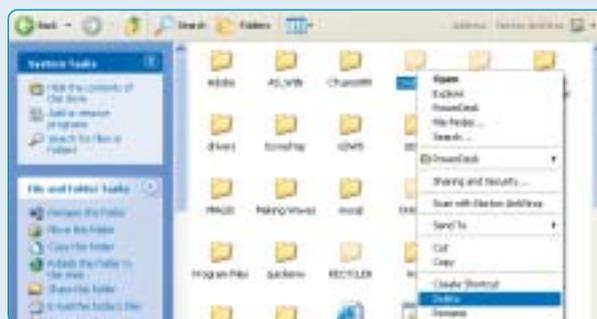
The Recovery Console feature adds an extra stage to Windows XP's bootup routine. To avoid this you may want to remove the feature from your hard drive and run Recovery Console from your OS disc as and when it's needed.

1 In My Computer, double-click the hard drive where the Console is installed. From the Tools menu, select Folder Options and click on the View tab. Now make sure the 'Hide protected operating system files' checkbox is cleared under 'Show hidden files and folders'



Download a full list explaining what all the Recovery Console commands mean from www.pcadvisor.co.uk/printplus

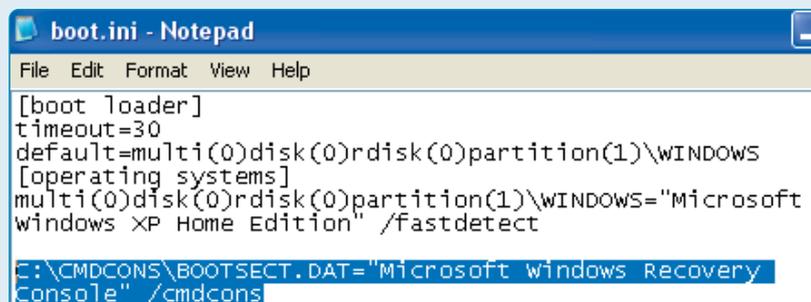
2 Delete the Cmdcons folder and then delete the file Cmlldr in the root directory for the drive



3 Make sure that the file boot.ini is not read-only. To check, right-click and select Properties then open it in Notepad. Delete the entry for Recovery Console that looks like the following and save the file:

```
C:\cmdcons\bootsect.dat="Microsoft Windows Recovery Console" /cmdcons
```

Take care to delete only this entry. Modifying the boot.ini file incorrectly may prevent Windows from starting. You should also change the boot.ini file back to read-only after this to prevent further accidental changes



```
[boot loader]
timeout=30
default=multi(0)disk(0)rdisk(0)partition
(1)\Windows
[operating systems]
multi(0)disk(0)rdisk(0)partition(1)\
Windows="Microsoft Windows XP
Professional Edition" /fastdetect
C:\cmdcons\bootsect.dat="Microsoft
Windows Recovery Console" /cmdcons
```

'Timeout=' indicates the time before the GUI loads, while 'default=' shows how many operating systems are loaded and which loads by default. At the bottom is the instruction to offer Recovery Console as a text option before Windows loads. To load the boot.ini file as normal, type:

```
bootcfg /default
```

More often, however, the boot.ini file needs repairing. First make a backup copy by typing bootcfg /copy, followed by bootcfg /rebuild. This attempts to restore the boot.ini file to the correct settings and enable Windows to load. If this is unsuccessful, try one of these commands to repair the file:

- bootcfg /list This itemises the entries in the boot list.
- bootcfg /scan This scans the hard drive for all Windows installations before displaying the results.
- bootcfg /add Typing this adds a Windows installation to the boot list.

Data saver

Recovery Console is a powerful and complex tool and for that reason we do not recommend using it lightly. You should be familiar with using commands at the command prompt. Even so, some of the entries available (such as commands for configuring boot entries or formatting a drive) can wipe data from your hard drive or prevent you accessing information.

Nonetheless, Recovery Console is a last resort that can – sometimes – prevent the need for a complete reinstallation of Windows. Because it provides access to so many diagnostics and repair applications under Windows XP, it is a potential data saver and a welcome addition to any power user's toolkit. ■