

Top Ten SunPCi™ Software Development Utilities

By the SunPCi Product Development Team

<http://www.sun.com/desktop/products/sunpci/>

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Introduction

All SunPCi™ windows software (e.g., applications, services, and device drivers supplied with the SunPCi package) are edited, built, tested and qualified on the SunPCi platform. In doing so, the SunPCi development team has come up with a list of “Top Ten” of the helpful, publically available development utilities for the software developer (and other “power” users) of the SunPCi platform.

Most, if not all of the programs, can be invoked from a DOS command prompt. While this may seem to fly in the face of the “point-and-click” paradigm of Windows, there are certain class of software developers who still rely on the use of the keyboard.

The utilities discussed here have been used on the Windows NT, Windows 2000 and Windows XP (NT/2K/XP) operating systems. Some may work on Win98 and WinME, or may have versions that work on Win98 and WinME, but for more precise information, it is suggested that the user refer to the associated web sites and/or documentation.

Top Ten SunPCi Utilities

10. **regmon** (www.sysinternals.com)

This program will monitor all accesses to the registry. In this way, a developer can log and watch for all read, write, create and delete accesses to the registry, as well as determine the order in which any of these accesses occur.

9. **filemon** (www.sysinternals.com)

This file system filter driver will monitor all file system related IO activity on a system. This includes local as well as network file systems, the named pipe file system as well as the mailbox file system. The utility also includes a “filtering” capability to log only activities involving specific files or paths, the specification of which can contain wildcard characters. Thus, one could monitor all files accessed by Microsoft Word by using the executable filter for MSWORD.EXE. This tool becomes particularly helpful when trying to determine why a particular program cannot access files in certain cases.

8. **pstat** (Microsoft Windows 2000 Resource Kit)

This program will output the status of all processes and threads (as well as other) information. This includes:

- memory usage
- per-process status, including process ID
- per-process thread status, including thread ID
- currently loaded drivers (module names, load address, link date)

7. **kill** (Microsoft Windows 2000 Resource Kit, Microsoft Windows XP Resource Kit)

This program is roughly the equivalent to the Unix ‘kill’ command, as it will kill a process, specified by the Process ID, or PID. The PID of all processes can be obtained by the usage of the program **pstat** or **tlist**.

6. **tlist** (Microsoft Windows XP Resource Kit)

This program is a very shortened form of the **pstat** utility, but will only list the existing processes by PID and process name. Handy when used in conjunction with the **kill** utility.

5. **regdmp** and **regfind** (Microsoft Windows 2000 Resource Kit)

These are 2 really useful registry debugging utilities. **regdmp** will output the contents of the registry, either the entire registry or specific hives/subhives, with a number of options on how the information is to be displayed. **regfind** is a fairly complete utility to search the registry for particular key values, however, it is not that useful for finding a registry key. The best way to search for a key seems to be to redirect the output of **regdmp** to a temporary file and then perform a textual search on that file.

4. **windiff** (Microsoft Software Development Kit (SDK))

This program can perform textual and binary differences between 2 files or 2 directory trees. While similar to the Unix *diff* command, the major difference is that **windiff** will display the differences graphically. Most helpful is the fact that the display is side-by-side, with the different sections (or files, when comparing directories) highlighted. Even better, when comparing 2 directories, double clicking on the files that have been detected as “different” will bring up the 2 files, side-by-side. **Windiff** provides a multitude of display options. We’ve found that the most useful settings are

- show all lines (similar and different) for both files
- ignore blanks
- show line numbers

3. **shutdown** (Microsoft Windows 2000 Resource kit)

This program will shutdown windows, after a specified number of seconds, with the option to reboot the system after shutdown.

2. **rlogin** (source : unknown)

This package allows for remote login into an NT/2K/XP system via the TCP/IP semantics of Unix’s *rlogin*. The package (which can be found on the web) usually consists of a daemon (**rlgoid**) which runs and provides authentication and very basic terminal emulation.

This program/facility is very useful, especially when used in conjunction with the other previously mentioned command-line utilities as it enables the developer to “log into” a running Windows NT/2K/XP system (from another Windows NT/2K/XP system or from a Solaris™ platform) and perform various tasks while not having to be physically present. Note that for Windows XP Professional, this type of capability is now built into the operating system, but only allows for another Windows XP Professional system to “log into” a running Windows XP Professional system.

1. **vi** (www.vi.org)

This program is the Unix *vi* ported to NT/2K/XP. Why is this considered the #1 developer tool or the SunPCi development team? Simply because, for users coming from a Unix® environment, this provides a single editor over multiple operating systems, obviating the need to learn “yet another” editor.

Other Resource Locations

These are only a few of the galaxy of general development tools available for Windows NT/2K/XP, but these are the ones that the SunPCi development staff have found to be most useful. Other resources include:

- Microsoft (www.microsoft.com). There are many more tools and a large amount of information, documentation and source code in the various incarnations of the Microsoft Resource kits, SDKs and DDKs.
- Sysinternals (www.sysinternals.com). This company supplies many other utilities, mostly geared towards software developers and system administrators.

- Open System Resources (www.osr.com). This consulting company has a number of free NT/2K/XP utilities, many of which have become part of official Microsoft distributions (e.g., Resource Kit and DDK).
- Cgywin (www.cgywin.com). This site supplies a UNIX emulated environment for Windows. Notably, here are all the shell utilities “ported” to Windows.