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Incident Response Toolkit
:
Initial Response

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Balwant Rathore, CISSP
Founder,
Open Information System Security Group
www.oissg.org

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- Sample Toolkit for WinNT
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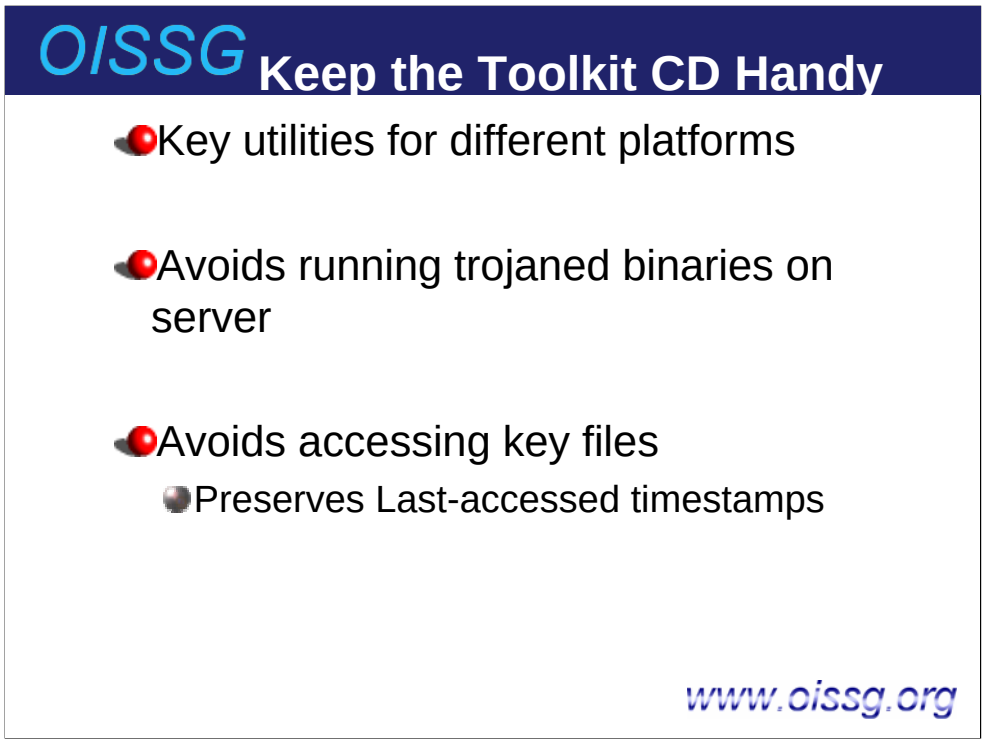

The purpose of immediate response toolkit are:

- Helping organization personnel quickly and efficiently recover from security incidents.

- Minimizing loss, theft, or disruption of critical computing services when incidents occur.

- The need to respond systematically. Dealing properly with legal issues.

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Sample Toolkit for WinNT

- Cmd.exe
- Loggedon
- Rasusers
- Netstat
- Fport
- Pslist
- listdlls
- Nbtstat
- Arp
- Kill
- Md5sum
- Rmtshare
- Netcat
- doskey

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OISSG Tips on Information Gathering

- Save data to floppy
  - Overwriting data on hard-disk might lose valuable info
- Record the data gathered, in a notebook
- Use netcat / cryptcat to send data to a forensic workstation

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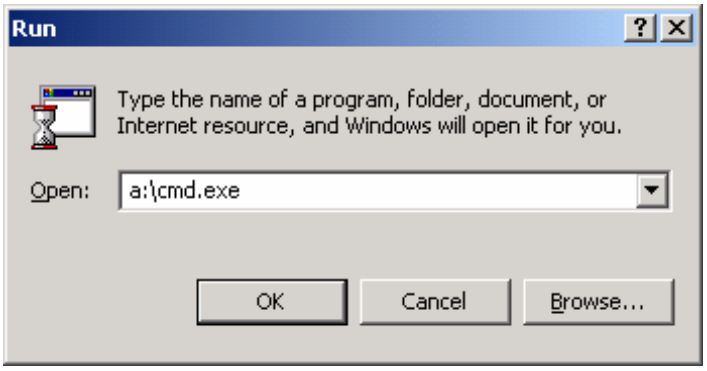
The first step…

- Executing a trusted command shell



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OISSG Who have logged on?

- Psloggedon utility from ‘sysinternals’
  - A utility that shows all users connected locally and remotely
- Rasusers
  - To list users logged in via Remote Access Service

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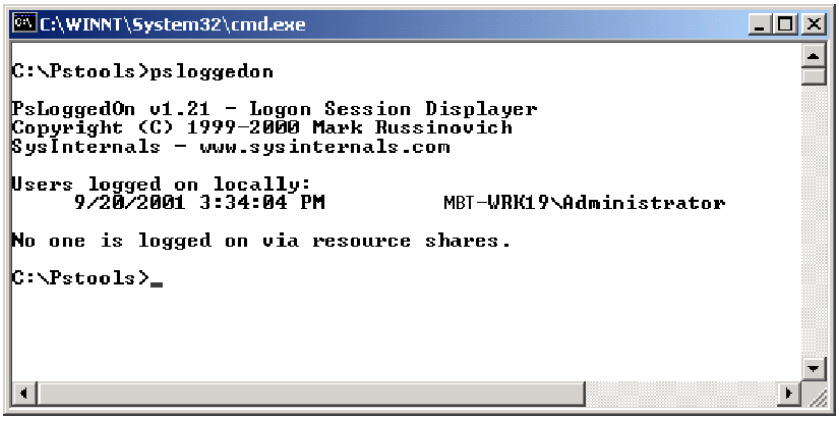
OISSG Psloggedon output



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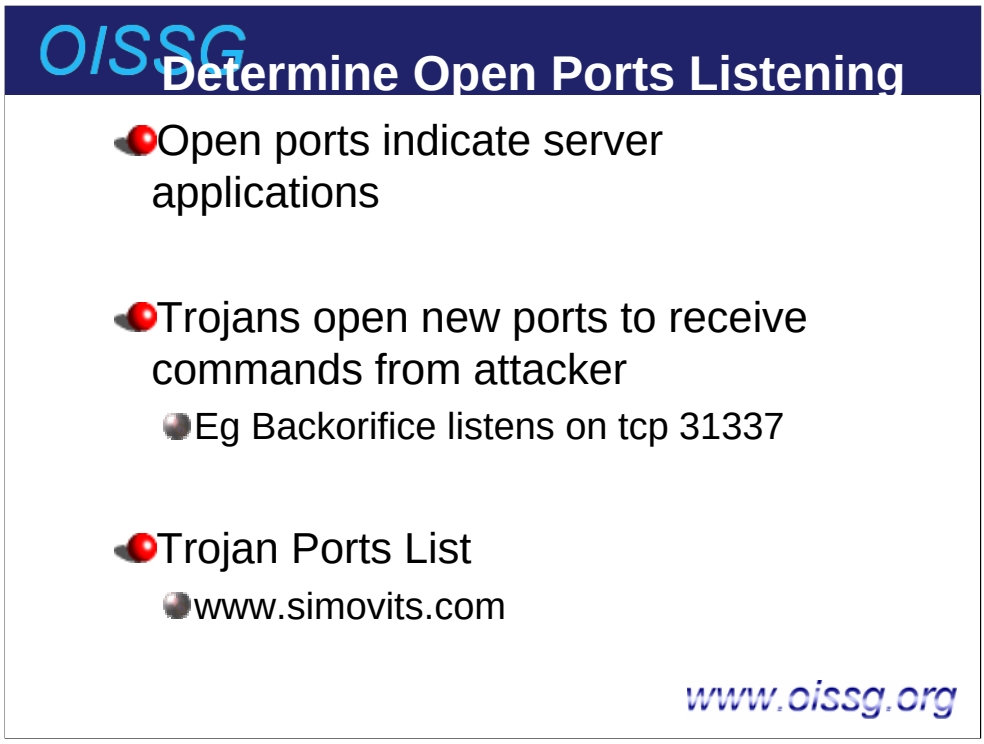
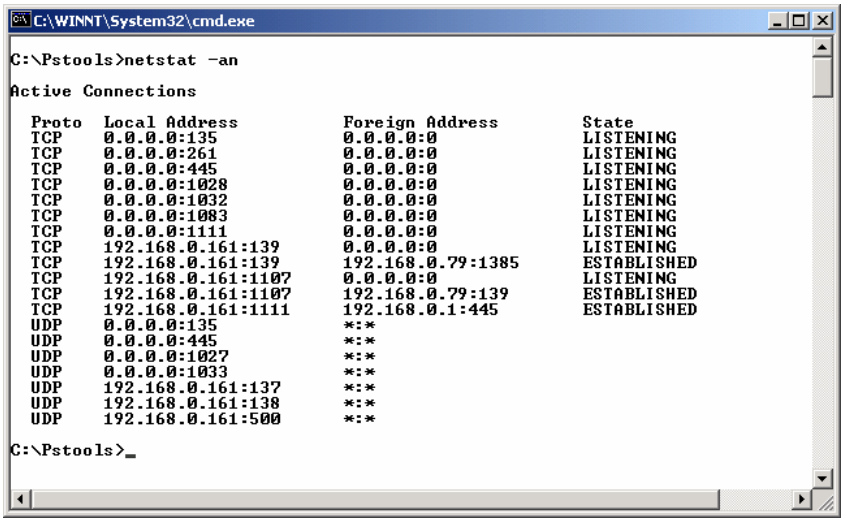


Open ports indicates the server applications (running on the server) and using these, Trojans can be executed. The list of Trojan ports can be found in the link given above.

OISSG Netstat: to list open ports



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Which application is listening on port?

- To identify the trojan binary / service
- Fport from Foundstone
- lsof in Unix

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Carbonite from foundstone is a Linux kernel module to aid in RootKit detection, an lsof and ps at the kernel level. Carbonite "freezes" the status of every process in Linux's task_struct, which is the kernel structure that maintains information on every running process in Linux.

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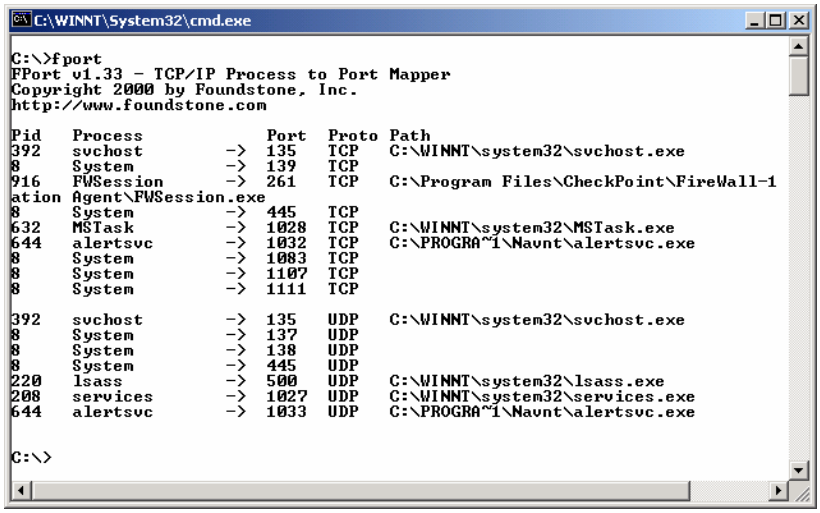
Fport Output



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Recent Connections?

- Use nbtstat
- Recent connections are maintained in the cache
- Depends how lucky you are!

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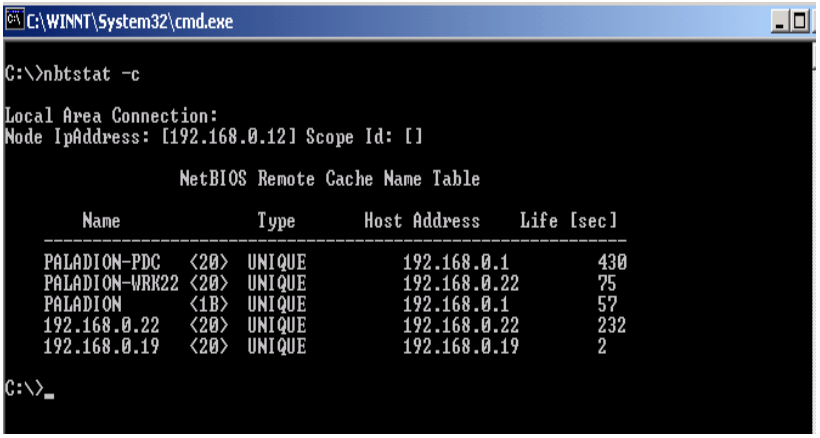
nbtstat Output



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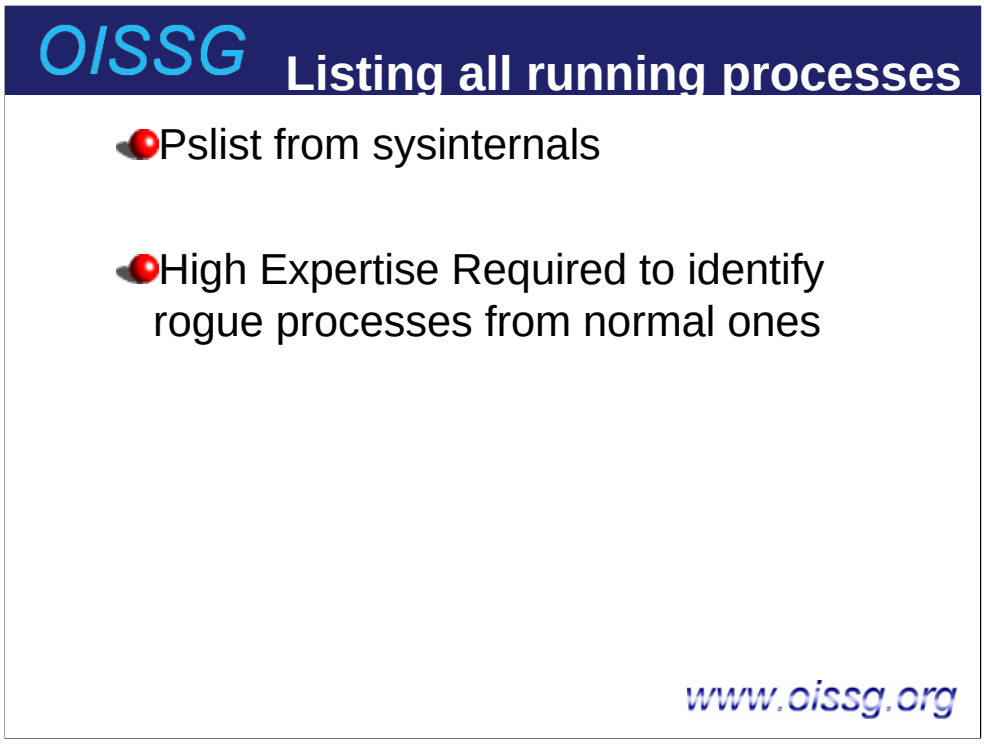

Most UNIX operating systems ship with a command-line tool called "ps" (or something equivalent) that administrators use to view detailed information about process CPU and memory usage. Windows NT/2K comes with no such tool natively, but you can obtain similar tools with the Windows NT Workstation or Server Resource Kits. The tools in the Resource Kits, *pstat* and *pmon*, show you different types of information, and will only display data regarding the processes on the system on which you run the tools. *PsList* is utility that shows you a combination of the information obtainable individually with *pmon* and *pstat*. You can view process CPU and memory information, or thread statistics.

What makes *PsList* more powerful than the Resource Kit tools is that you can view process and thread statistics on a remote computer.

PsList uses the Windows NT/2K performance counters to obtain the information it displays. It is a command line tool

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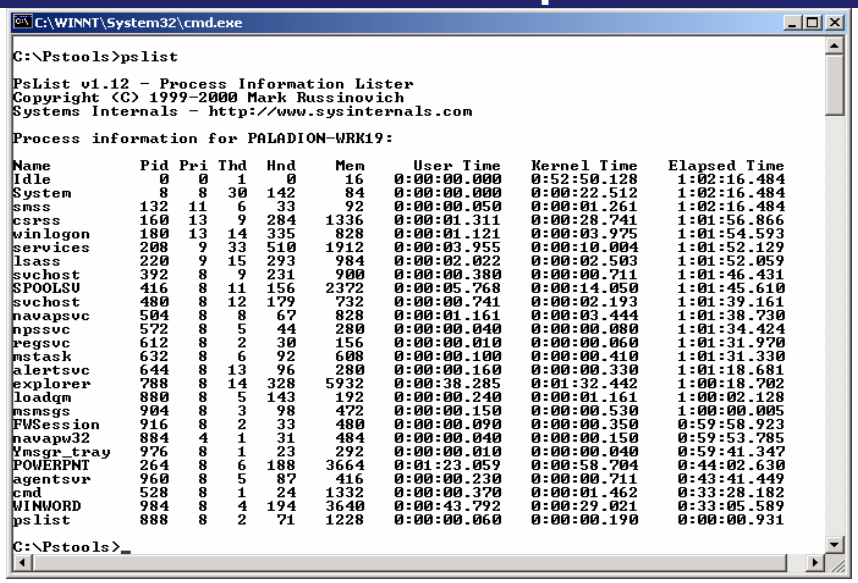
PSList output



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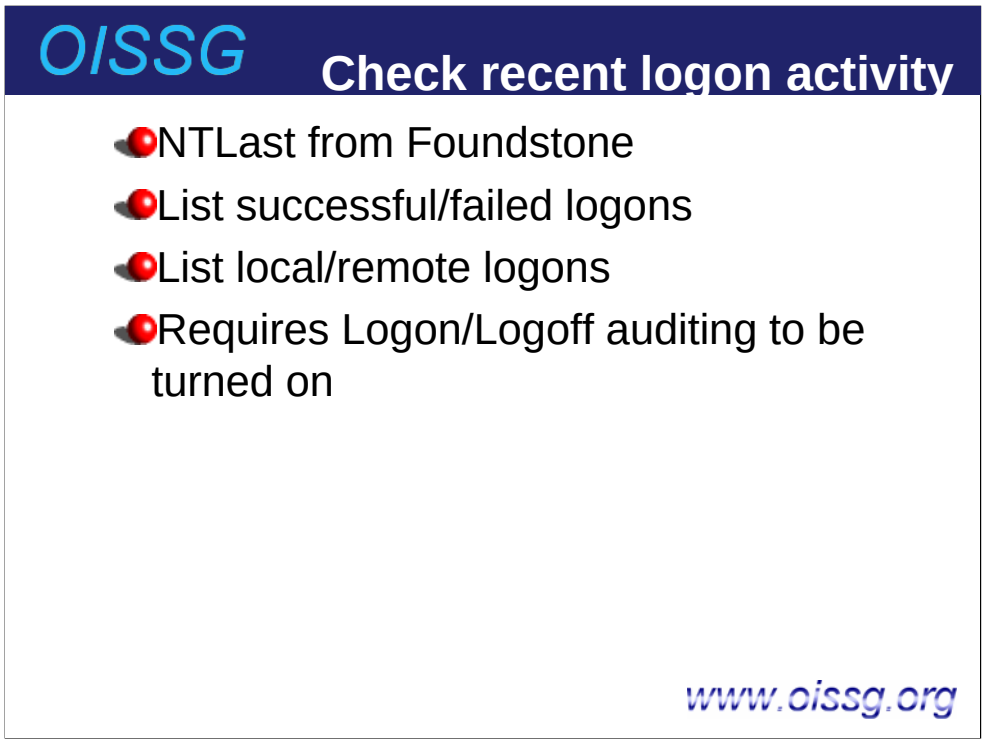

• Reads saved .evt files - makes it easy to search through your archives

• Allows you to search before, after, and between dates - again to zoom in on something

• Filters logons 'From' a certain host - helps you zoom in on suspected intrusions

• Can save files in a csv format w/ time field formatted for Excel

•Filters out and distinguishes web log usage - cuts down search time

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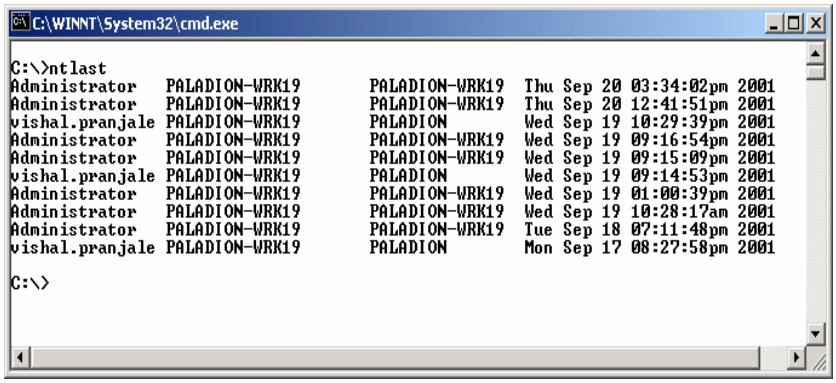
NTLast Output



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OISSG Finding Last Access Times

- Find out which files were accessed during the attack
- Afind, from Foundstone
- Specify directories / time range to search

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AFind is the only tool that lists files by their last access time without tampering the data the way that right-clicking on file properties in Explorer will. AFind allows you to search for access times between certain time frames, coordinating this with logon info provided from ntlast, you can to begin determine user activity even if file logging has not been enabled

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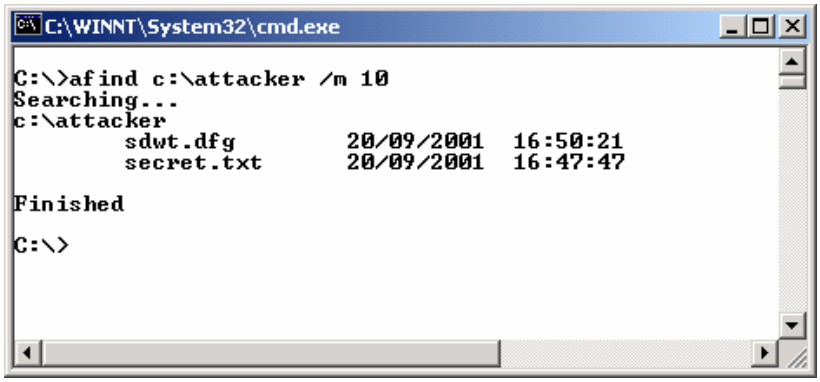
Afind Output



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The output of the “afind” command is shown in the figure.

OISSG Capture Event Log entries

- Dumpevt from Somarsoft
  - Dumps the eventlog in a format suitable for importing into a database
  - Dumps any of the 3 event logs

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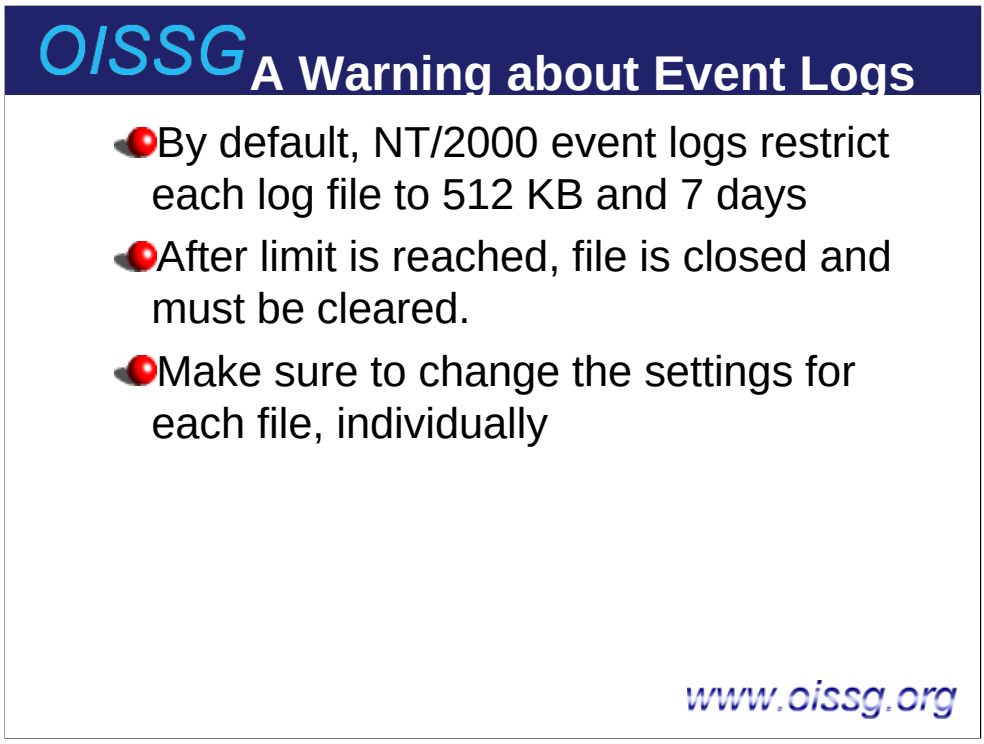

In Windows NT/2000 log files size is 512 KB by default and after 7 days it will be closed & must be cleared. Settings for these must be changed individually.

OISSG Review Key Registry Entries

- Look for specific registry values for clues
- Dumping entire registry is inefficient
- Reg query from NT Resource Kit

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Using reg query

- Eg. To get recent files used

Reg query
"HKCU\Software\Microsoft\Office
\9.0\Powerpoint\Recentfilelist"

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OISSG Obtaining System Passwords

- Need for user passwords, if user is not co-operating
- PWDump by Todd Sabin
- Dumps sam database
- Database can be cracked with John the Ripper, or l0phtcrack

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Pwdump: tool to extract password hashes from the registry. By Jeremy Allison.

Pwdump2: tool to extract password hashes from the registry whether or not SYSKEY is enabled on the system.

Samdump: tool to extract password hashes from SAM files.

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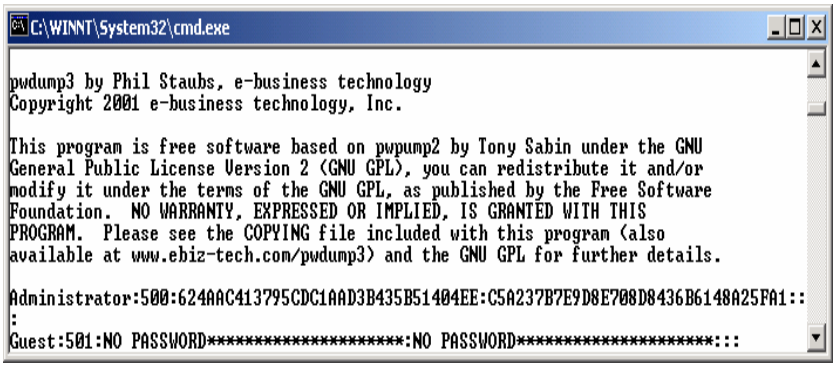
Pwdump3 Output



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The output of the “pwdump3” command is shown in the figure.

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Summary

- Keep a toolkit handy
- Keep a clean set of floppies
- Practice the tools beforehand

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Questions?

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Thanks for your time

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