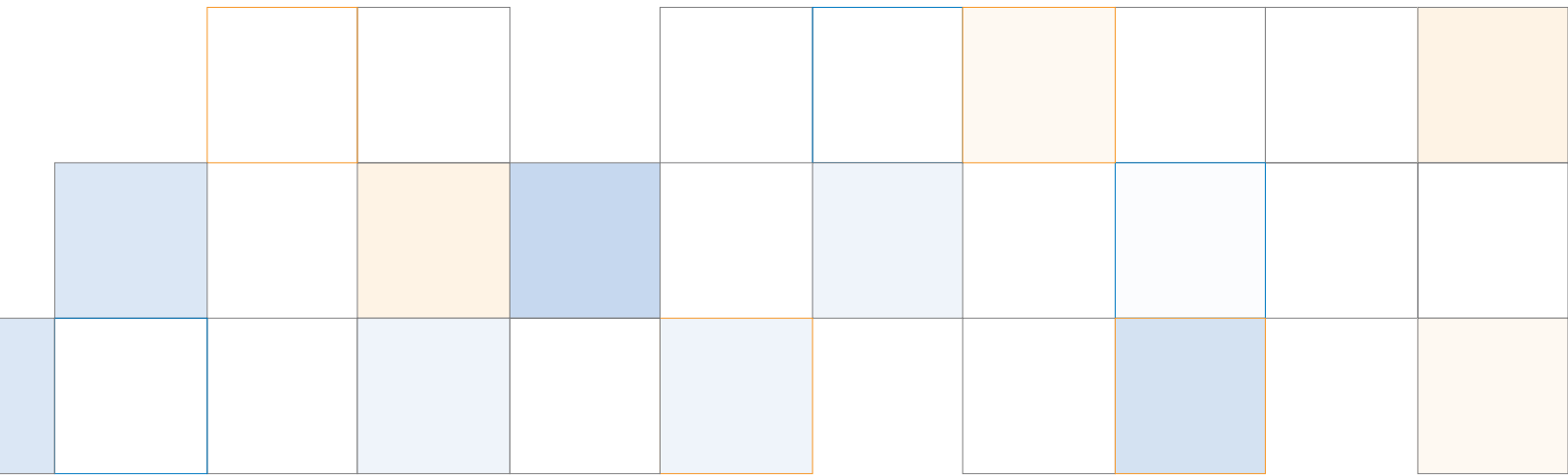




# tech tips



## How to Analyze a Crash Dump

1. Download the Solaris Crash Analysis Tool (SCAT) from the Sun Website.
2. Install the package onto a Solaris server.
3. Update the Paths on the server to include the new SCAT package

```
# PATH=$PATH:/opt/SUNWscat/bin; export PATH
# echo $PATH
```

4. Now find out the servers savecore/dump directory and change to that directory.

```
# dumpadm
Dump content: kernel pages
Dump device: /dev/dsk/clt1d0s1 (swap)
Savecore directory: /var/crash/sparc10
Savecore enabled: yes
# cd /var/crash/sparc10
```

5. Copy across the dump file the customer has provided you into the savecore directory.
6. If you wanted to analyse a dump file which ended in .2 (E.g. unix.2 & vmcore.2) you would run the following command.

```
# scat 2
Solaris[™] CAT 5.0 for Solaris 9 64-bit SPARC(sun4u)
SV4622M, Jul 3 2008
Copyright © 2008 Sun Microsystems, Inc. All rights reserved.
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Feedback regarding the tool should be sent to
SolarisCAT_Feedback@Sun.com

Visit the Solaris CAT blog at http://blogs.sun.com/SolarisCAT

opening unix.2 vmcore.2 ...dumphdr...symtab...core...done
loading core data: modules...symbols...done
loading CTF...stabs...Unable to load any default stabs file
done
core file: /var/crash/sparc10/vmcore.2
user: Super-User (root:0)
release: 5.9 (64-bit)
version: Generic_118558-22
machine: sun4u
node name: margay
hw_provider: Sun_Microsystems
```

```

system type: SUNW,Ultra-4 (UltraSPARC-II)
hostid: 80b1418e
dump_conflags: 0x10000 (DUMP_KERNEL) on /dev/dsk/c0t0d0s1(2.92G)
time of crash: Thu Oct 1 13:11:35 EST 2009
age of system: 3 minutes 56.12 seconds
panic CPU: 0 (4 CPUs, 1.00G memory)
panic string: [AFT1] errID 0x00000056.8f3a1a1d UE Error(s)
See previous message(s) for details
sanity checks: settings...vmem...CPU...sysent...clock...misc...
done
SolarisCAT(vmcore.2/9U)>

```

7. You are now presented with an overview of the system where the dump file came from. From here we can start to run a series of commands to find out exactly what happened. There are a wide range of commands which can be used in SCAT; i will only be mentioning a few of the main ones.
- analyze                      analyse the core dump
  - proc                         Show which processes running when the system crashed
  - thread <thread #>         Investigate a particular thread which a
  - help                         Show all the commands available within SCAT.
8. When you run the analyze command look for the below output as it will tell you which command failed and on which CPU.

```

==== panic thread: 0x2a10001fd40 ==== CPU: 0 ====
==== panic kernel thread: 0x2a10001fd40 PID: 0 on CPU: 0 ====
cmd: sched

```

9. From the above output it appears the 'sched' command causes the panic on CPU 0. From here you can use some of the other commands to dive deeper into the dump file to find out why exactly it failed. When analysing dump files it is a good practice to also review the system log when the crash occurred as it also contains valuable information.

For more information on analysing crash dumps see the below links:

<http://blogs.sun.com/solariscat/>

<http://www.cuddletech.com/blog/pivot/entry.php?id=966>

<http://www.itworld.com/use-solaris-cat-crash-dump-nlsunix-080424>