NAME

sha − Shell accounting file

DESCRIPTION

The file */etc/sha* is used by each Shell to record command execution data. This information is *not* used for charging, but is helpful for system tuning, command design, and monitoring of user activity. For each command executed, the Shell writes a 32-byte record of the following form:

```
struct {
        char    commandname[8];
        char    loginname[6];
        char    ttyletter;
        char    userid;
        long    date;
        long    realtime;
        long    cputime;
        long    systemtime;
} shrecord;
```

The *commandname* gives the last (or only) component of a pathname. When an asynchronously-executed command terminates, the Shell can obtain times, but not the actual command name. In this case, '**gok' is used. The name '()' indicates the completion of a parenthesized subshell.

The type (and therefore volume) of data recorded in */etc/sha* can be controlled by setting file permission bits appropriately. If it cannot be opened for writing, no data is recorded. Otherwise, the Shell tests the 3 bits of the group permission field to determine the kinds of recording to be done. If a Shell is reading from a TTY, it tests the high-order bit (04). If it is 0, the Shell records only external commands, i.e., those not built into the Shell. If the bit is 1, internal commands (such as *chdir*, =, etc.) are also recorded. A Shell that is not reading from a TTY uses the two low-order bits. If bit 02 is on, external commands are recorded. Setting bit 01 on adds internal commands. *Adm* should own */etc/sha*, and the group owner should be one not used elsewhere, such as 0. No data is ever recorded for the super-user. Sample file modes and their effects are:

606 Record external commands issued at TTY. This is the preferred mode.

666 Record everything but procedure-level internal commands, which can account for 30% of all command executions.

676 Record everything. This mode is probably of interest only to those who maintain the Shell. Be warned that this mode may cause */etc/sha* to grow by 1000 blocks per day in an active system.

SEE ALSO

sh(I), lastcom(VIII), sa(VIII)