Click to verify



```
Just input the root password at the point where the boot process stops and it'll take you into maintenance mode. You can run the fsck from there. After I enter the root password for system maintenance): single-user privilege
assigned to /dev/console. Entering System Maintenance Mode Oct 12 15:40:27 su: 'su root' succeeded for root on /dev/console su: No shell /bin/ksh. Trying fallback shell /sbin/sh. -sh: /bin/mail: not found -sh: /bin/mail: not f
/usr/lib/ld.so.1 Killed # Ouch. In that case booting from cd really is you only option. You can get a terminal window to run the fsck after the installer starts. I don't remember off hand how far you need to get into the installer starts. I don't remember off hand how far you need to get a menu. If one doesn't
pop up move to the next step in the installer and try again. I'm sorry I can't be more specific, it's been a couple of months since I've needed to do that. Try using Software Disk 1. From the Ok> prompt, enter command "boot cdrom -s". This will put you in Single User Mode. From there, you should be able to fsck -y /dev/rdsk/c1t0d0s0. The -y will
answer Yes to all the "Do you want to fix" questions. Keep in mind the errors you are having usually indicate a bad VTOC or disk. You may want to load a back up VTOC. I have had success a few times doing this. Most of the time the disk is so corrupted that I had to start from scratch. fsck - check and repair file systems Synopsis fsck [-F FSType] [-m]
[-V] [-v] [special]... fsck [-F FSType] [-n | N | y | Y] [-V] [-v] [-o FSType-specific-options] [special]... Description fsck audits and interactively repairs inconsistent the default action for each correction is to wait for the user to respond yes or no. If the user does not have write permission fsck defaults
to a no action. Some corrective actions will result in loss of data. The amount and severity of data loss can be determined from the diagnostic output. FSType-specific options are options specified in a comma-separated (with no intervening spaces) list of options or keyword-attribute pairs for interpretation by the FSType-specific module of the
command. special represents the character special device on which the file system resides, for example, /dev/rdsk/c1t0d0s7. Note: the character special device is specified fsck checks the file systems listed in /etc/vfstab. Those entries in
/etc/vfstab which have a character special device entry in the fsckdev field and have a non-zero numeric entry in the fsckdev field will be checked to those of the type indicated. If special is specified, but -F is not, the file system type will be determined by looking for a matching entry in
/etc/vfstab. If no entry is found, the default local file system type specified in /etc/default/fs will be used. If a file system type supports parallel checking, for example, ufs, some file system type supports parallel checking may be checked in parallel.
generic options are supported: -F FSType Specify the file system type on which to operate. -m Check but do not repair. This option checks that the file system is ready for mounting, fsck displays a message such as: ufs fsck: sanity check: /dev/rdsk/c0t3d0s1 okay -n | -N
Assume a no response to all questions asked by fsck; do not open the file system for writing. -V Echo the expanded command line. -v Enables verbose output. Might not be supported by all filesystem-specific fsck implementations. -y | Y Assume a yes
response to all questions asked by fsck. -o specific-options These specific-options asked by fsck. -o specific-options These specific-options can be any combination of the following separated by commas (with no intervening spaces). b=n Use block for the file system. Block 32 is always one of the alternate super blocks. Determine the location of other super blocks by running newfs(8)
with the -Nv options specified. c If the file system is in the new (dynamic table) format, convert it to the new (dynamic table) format can support the file system configuration. In interactive mode, fsck will list the direction the conversion is to be made and ask
whether the conversion should be done. If a negative answer is given, no further operations are done on the file system. In preen mode is best used when all the file systems are being converted at once. The format of a file system can be
determined from the first line of output from fstyp(8). Note: the c option is seldom used and is included in future releases. There is no guarantee that this option will be included in future releases. If Force checking of file systems regardless of the state of their super block clean flag. p Check and fix the file system non-
interactively ("preen"). Exit immediately if there is a problem requiring intervention. This option is required to enable parallel file system is unmounted and OK 1 erroneous parameters are specified 32 file system is unmounted and needs checking (fsck -m only) 33 file system is
already mounted 34 cannot stat device 35 a filesystem that is mounted read/write was modified - reboot 36 uncorrectable errors detected - terminate immediately 40 file system is mounted read-only and is OK Files /etc/default/fs default local file system
type. Default values can be set for the following flags in /etc/default/fs. For example: LOCAL=ufs. LOCAL=ufs. LOCAL=ufs. Evaluation for a command if no FSType is specified. /etc/vfstab list of default partition for a command if no FSType is specified. /etc/vfstab list of default partition for a command if no FSType is specified. /etc/vfstab list of default partition for a command if no FSType is specified. /etc/vfstab list of default partition for a command if no FSType is specified. /etc/vfstab list of default partition for a command if no FSType is specified. /etc/vfstab list of default partition for a command if no FSType is specified. /etc/vfstab list of default partition for a command if no FSType is specified. /etc/vfstab list of default partition for a command if no FSType is specified. /etc/vfstab list of default partition for a command if no FSType is specified. /etc/vfstab list of default partition for a command if no FSType is specified. /etc/vfstab list of default partition for a command if no FSType is specified. /etc/vfstab list of default partition for a command if no FSType is specified. /etc/vfstab list of default partition for a command if no FSType is specified. /etc/vfstab list of default partition for a command if no FSType is specified. /etc/vfstab list of default partition for a command if no FSType is specified. /etc/vfstab list of default partition for a command if no FSType is specified. /etc/vfstab list of default partition for a command if no FSType is specified. /etc/vfstab list of default partition for a command if no FSType is specified. /etc/vfstab list of default partition for a command if no FSType is specified. /etc/vfstab list of default partition for a command if no FSType is specified. /etc/vfstab list of default partition for a command if no FSType is specified. /etc/vfstab list of default partition for a command if no FSType is specified. /etc/vfstab list of default partition for a command if no FSType is specified. /etc/vfstab list of default partition for a command if 
Committed See Also ufs(4FS), vfstab(5), attributes(7), clri(8), fsck_ufs(8), reboot(8) Warnings The operating system data. Running fsck on a mounted file system can cause the operating system's buffers to become out of date with respect to the disk. For
this reason, the file system should be unmounted when fsck is used. If this is not possible, care should be taken that it is rebooted immediately after fsck is run. Quite often, however, this will not be sufficient. A panic will probably occur if running fsck on a file system modifies the file system. Notes This command may
not be supported for all FSTypes. Starting with Solaris 9, fsck manages extended attributes and fsck manages extended attributes and fsck manages extended attributes are not attributes.) A file system with extended attributes will not be accessible and fsck
will strip them from the files and place them in lost+found. Once the attribute-aware fsck to stabilize the file system before using it in
an attribute-aware environment. Page 2 fsck pcfs - file systems consistency check and interactive repairs inconsistent conditions on file systems. Special Description The fsck utility audits and interactively repairs inconsistent conditions on file systems. Special Description The fsck utility audits and interactively repairs inconsistent conditions on file systems.
device on which the file system resides, for example /dev/disk. The character special device, should be used. In the case of correcting serious inconsistencies, by default, fsck asks for confirmation before making a repair and waits for the operator to respond either yes or no. If the operator does not have write permission
on the file system, fsck defaults to a -n (no corrections) action. See fsck(8). Repairing some file system inconsistencies may result in loss of data. The amount and severity of data loss may be determined from the diagnostic output. When executed with the verify option (-o v), fsck pcfs automatically scans the entire file system to verify that all of its
allocation units are accessible. If it finds any units inaccessible, it updates the file allocation table (FAT) appropriately. It also updates any effected directory entries to reflect the problem. This directory update includes truncating the file allocation table (FAT) appropriately. It also updates any effected directory update includes truncating the file at the problem. This directory update includes truncating the file allocation table (FAT) appropriately.
units become orphaned. Orphaned chains of accessfully scanning and correcting any errors in the integral range from 0 through 9. After successfully scanning and correcting any errors in the
file system, fsck displays a summary of information about the file system. This summary includes the size of the file system in bytes, the number of available allocation units remaining in the file system. Options generic options are supported: -mCheck but do
not repair. This option checks that the file system is ready for mounting, returning the appropriate exit status. If the file system is ready for mounting, fsck displays a message such as: pcfs fsck: sanity check: /dev/disk okay -n | -NAssume a no response to all questions asked by fsck; do not open the file system for writing. -VEcho the expanded
command line, but do not execute the command. This option may be used to verify and to validate the command line. -y | -YAssume a yes response to all questions asked by fsck. -o specific optionsSpecify pcfs file system specific options in a comma-separated list, in any combination, with no intervening spaces. vVerify all allocation units are
accessible prior to correcting inconsistencies in the metadata. pCheck and fix the file system non-interactively (preen). Exit immediately if there is a problem requiring intervention. wCheck writable file systems only. Files specialThe device which contains the pcfs. A hard disk device or high-capacity removable device name much be qualified with a
suffix to indicate the proper FDISK partition. For example, in the names: /dev/rdsk/c0t0d0p0:c and /dev/rdsk/c0t0d0p0:c a
attributes(7), fdisk(8), fsck(8), fsck(8), fsck(8), fsck(8), fsck(8), mkfs (8), mkfs (
possible, care should be taken that it is rebooted immediately after fsck is run. Quite often, however, this is not sufficient. A panic will probably occur if running fsck on a file system modifies the file system consistency check and interactive repair Synopsis fsck -F udfs [generic options]
[special ...] fsck -F udfs [generic_options] [-o specific options] [special ...] Description fsck audits and interactively repairs inconsistent conditions on file system to be checked can be specified by giving the name of the block or character special device or by giving the name of its mount point if a matching entry exists in /etc/vfstab
special represents the character special device, for example, /dev/rdsk/c0t2d0s0, on which the file system resides. The character special device is specified, all udfs file systems specified in the vfstab file with a fsckdev entry are checked. If
the -p (preen) option is specified, udfs file systems with an fsckpass number greater than 1 are checked in parallel. See fsck(8). In the case of correcting serious inconsistencies, by default, fsck asks for confirmation before making a repair and waits for the operator to respond with either yes or no. If the operator does not have write permission on the
file system, fsck defaults to the -n (no corrections) option. See fsck(8). Repairing some file system inconsistencies can result in loss of data. The amount and severity of data loss can be determined from the diagnostic output. fsck automatically corrects innocuous inconsistencies. It displays a message for each corrected inconsistency that identifies the
nature of the correction which took place on the file system. After successfully correcting a file system and the number of used and free blocks. Inconsistencies checked are as follows: Blocks claimed by more than one file or the free list blocks claimed by a file or the free list outside the range of the
file system Incorrect link counts in file entries Incorrect directory sizes Bad file entry format Blocks not accounted for anywhere Directory checks, more blocks for files than there are in the file system Bad free block list format Total free block count
incorrect Options The following options are supported: -m Check but do not repair. This option are supported: -m Check but do not repair. This option are supported: sanity.
check: /dev/rdsk/c0t2d0s0 okay -n | -N Assume a no response to all questions asked by fsck; do not open the file system for writing. -V Echo the expanded command line, but do not execute the command line, but do not execute the command line, but do not execute the command line.
Specify udfs file system specific options in a comma-separated list with no intervening spaces. The following specific options are available: f Force checking of file systems regardless of the state of their logical volume integrity state.
intervention. This option is required to enable parallel file system checking. w Check writable file systems only. Files /etc/vtstab List of default parameters for each file system/file-system/dfs See Also vfstab(5), attributes(7), fsck(8), fsdb_udfs(8), fstyp(8), fstyp(8).
mkfs(8), mkfs udfs(8), mountall(8), reboot(8) Warnings The operating system data. Running fsck on a mounted file system can cause the operating system is unmounted. If this is not possible, take care that the system is
quiescent and that it is rebooted immediately after running fsck. A panic will probably occur if running fsck on a file system is not done before the system is shut down, the file system might become corrupted. In this case, a file system check needs to be completed
before the next mount operation. Diagnostics not writable You cannot run fsck. FILE SYSTEM WAS MODIFIED File system has been modified to bring it to a consistent state. Can't read allocation extent Cannot read the block containing allocation extent. Bad tag on
alloc extent Invalid tag detected when expecting an allocation extent. Volume sequence tag error Invalid tag detected in the space bitmap tag error Invalid tag detected in the space bitmap. UNEXPECTED INCONSISTENCY; RUN fsck MANUALLY Use fsck in interactive mode. Page 4 fsck ufs - file system consistency check and
interactive repair Synopsis fsck -F ufs [generic-options] [special]... fsck -F ufs [special]... fsck -F u
of its mount point if a matching entry exists in /etc/vfstab. The special parameter represents the character special device, for example, /dev/rdsk/c1t0d0s7, on which the file system resides. The special device should be used. The fsck utility will not work if the block device is mounted, unless the file system is
error-locked. If no special device is specified, all ufs file systems specified in the vfstab with a fsckdev entry will be checked in parallel. See fsck(8). In the case of correcting serious inconsistencies, by default, fsck asks for confirmation before
making a repair and waits for the operator to respond either yes or no. If the operator does not have write permission on the file system inconsistencies can result in loss of data. The amount and severity of data loss can be determined from the diagnostic output.
The fsck utility automatically corrects innocuous inconsistencies such as unreferenced inodes, too-large link counts in the free list, blocks appearing in the free list and also in files, or incorrect counts in the super block. It displays a message for each inconsistency corrected that identifies the nature of the correction on the
file system which took place. After successfully correcting a file system, fisch prints the number of files on that file system, the number of system, the
the file system. Incorrect link counts. Incorrect link counts. Incorrect directory sizes. Bad inode format. Blocks not accounted for anywhere. Directory checks, file pointing to unallocated inode, inode number out of range, and absence of '.' and '..' as the first two entries in each directory. Super Block checks: more blocks for inodes than there are in the file system. Bad free
block list format. Total free block and/or free inode count incorrect. Orphaned files and directories (allocated but unreferenced) are, with the operator's concurrence, reconnected by placing them in the lost+found directory. The name assigned is the inode number. If the lost+found directory does not exist, it is created. If there is insufficient space in
the lost+found directory, its size is increased. An attempt to mount a ufs file system with the -onolargefiles option will fail if the file system has ever contained a large file (a file whose size is greater than or equal to 2 Gbyte). Invoking fsck resets the file system state if no large files are present in the file system. A successful mount of the file system
exit status. If the file system is ready for mounting, fsck displays a message such as: ufs fsck: sanity check: /dev/rdsk/c0t3d0s1 okay -n | NAssume a no response to all questions asked by fsck; do not open the file system for writing. -VEcho the expanded command line, but do not execute the command. This option may be used to verify and to validate
the command line. -vEnables verbose output. Might not be supported by all filesystem-specific fsck implementations. -y | YAssume a yes response to all questions Specify ufs file system specific options. These options can be any combination of the following
separated by commas (with no intervening spaces). b=nUse block in as the super block for the file system. Block 32 is always one of the alternate super blocks by running newfs(8) with the -Nv options specified. Force checking of file systems regardless of the state of their super block clean flag. pCheck
and fix the file system non-interactively ("preen"). Exit immediately if there is a problem requiring intervention. This option is required to enable parallel file system checking. wCheck writable file systems only. Files /etc/vfstablist of default parameters for each file system Attributes See attributes (7) for descriptions of the following attributes:
Availabilitysystem/file-system/file-system/ufs See Also ufs(4FS), vfstab(5), attributes(7), fsdb ufs(8), muntall(8), mewfs(8), muntall(8), muntall(8), muntall(8), muntall(8), mountall(8), muntall(8), muntall(8)
with respect to the disk. For this reason, the file system should be unmounted when fsck is used. If this is not possible, care should be taken that the system is quiescent and that it is rebooted immediately after fsck is run. Quite often, however, this will not be sufficient. A panic will probably occur if running fsck on a file system modifies the file
system. Notes It is usually faster to check the character special device than the block special device fsck /dev/rdsk/c?t?d?s?rather than the raw (character special) device: fsck /dev/rdsk/c?t?d?s? Page 5 fsdb - file system debugger Synopsis
fsdb [-F FSType] [-V] [-o FSType-specific options] special Description fsdb is a file system debugger that allows for the manual repair of a file system to be debugged. Since different
FSTypes have different structures and hence different debugging capabilities, the manual pages for the FSType-specific fsdb should be consulted for a more detailed description of the debugging capabilities. Options -FSpecify the FSType should be consulted for a more detailed description of the debugging capabilities.
the special with an entry in the table, or by consulting /etc/default/fs. -VEcho the command line is generated by using the options and arguments provided by the user and adding to them information derived from /etc/vfstab. This option may be used to verify and validate the command
line. -oSpecify FSType-specific options. Files /etc/default/fsdefault local file system type. Default values can be set for the following flags in /etc/vfstablist of default parameters for each file system Attributes See attributes (7) for descriptions
of the following attributes: Availabilitysystem/core-os See Also vfstab(5), attributes(7) Manual pages for the FSType-specific modules of fsdb udfs - udfs file system debugger Synopsis fsdb [-F] udfs [generic_option] [-o specific option] special Description The fsdb udfs - udfs file system debugger Synopsis fsdb [-F] udfs [generic_option] [-o specific option] special Description The fsdb udfs - udfs file system debugger Synopsis fsdb [-F] udfs [generic_option] [-o specific option] special Description The fsdb udfs - udfs file system debugger Synopsis fsdb [-F] udfs [generic_option] [-o specific option] special Description The fsdb udfs - udfs file system debugger Synopsis fsdb [-F] udfs [generic_option] [-o specific option] special Description The fsdb udfs - udfs file system debugger Synopsis fsdb [-F] udfs [generic_option] special Description The fsdb udfs - udfs file system debugger Synopsis fsdb [-F] udfs [generic_option] special Description The fsdb udfs - udfs file system debugger Synopsis fsdb [-F] udfs [generic_option] special Description The fsdb udfs - udfs file system debugger Synopsis fsdb [-F] udfs [generic_option] special Description The fsdb udfs - udfs file system debugger Synopsis fsdb [-F] udfs [generic_option] special Description The fsdb udfs - udfs file system debugger Synopsis fsdb [-F] udfs [generic_option] special Description The fsdb udfs - udfs file system debugger Synopsis fsdb [-F] udfs [generic_option] special Description The fsdb udfs - udfs file system debugger Synopsis fsdb [-F] udfs [generic_option] special Description The fsdb udfs - udfs file system debugger Synopsis fsdb [-F] udfs [-F] udfs [generic_option] special Description The fsdb udfs - udfs file system debugger Synopsis fsdb [-F] udfs [-F] udfs
is an interactive tool that can be used to patch up a damaged udfs file system, fsdb udfs has conversions to translate block and i-numbers into their corresponding disk addresses. Mnemonic offsets to access different parts of an inode are also included. Mnemonic offsets to access different parts of an inode are also included.
file system tree. fsdb contains several error-checking routines to verify inode and block addresses. These can be disabled if necessary by invoking fsdb with the -o option or by using the o command. fsdb reads one block at a time, and therefore works with raw as well as block I/O devices. A buffer management routine is used to retain commonly used
blocks of data in order to reduce the number of read system calls. All assignment operations result in an immediate write-through familiarity. Options
The following options are supported: -o specific optionSpecify udfs file system specific options in a comma-separated list with no intervening spaces. The following specific options are supported: override some error conditions. p=stringSet prompt to string. wOpen for write. ?Display usage. Usage Numbers are considered hexadecimal by default.
numbers with a 0. Hexadecimal numbers beginning with a-f or A -F must be preceded with a 0x to distinguish them from commands. Disk addressing by fsdb is at the byte level. However, fsdb offers many commands to convert a desired inode, directory entry, block, and so forth, to a byte address. After the address has been calculated, fsdb records
the result in the current address (dot). Several global values are maintained by fsdb: Current to as dot) Current type (referred to as type) Most commands use the preset value of dot in their execution. For example, > 2:inode
first sets the value of dot (.) to 2, colon (:), signifies the start of a command, and the inode command sets inode to 2. A count is specified after a comma (,). Once set, count remains at this value until a new command is encountered that resets the value back to 1 (the default). So, if > 2000,400/X is entered, 400 hex longs are listed from 2000, and when
completed, the value of dot is 2000 + 400 * sizeof (long). If a RETURN is then entered, the output routine uses the current values of dot, count, and type and displays 400 more hex longs. An asterisk (*) causes the entire block to be displayed. An example showing several commands and the use of RETURN would be: > 2:ino; 0:dir?d or > 2:ino;
0:db:block?d The two examples are synonymous for getting to the first directory entry of the root of the file system. Once there, subsequently entering a RETURN, plus (+), or minus (-) advances to subsequent entries. Notice that > 2:inode; :lsor > :ls /is again synonymous. Expressions The following symbols are recognized by fsdb: RETURNUpdate
the value of dot by the current value of type and display using the current value of count. #Update the value of dot by specifying a numeric expression. Specify numeric expressions are evaluated from left to right and can use parentheses. After
evaluation, the value of dot is updated., count Update the count is updated., count updated to count is 1.? fDisplay in structured style with format specifier of * attempts to show a blocks's worth of information. The default for count is 1.? fDisplay in structured style with format specifier of * attempts to show a blocks's worth of information.
/ fDisplay in unstructured style with format specifier f. See Formatted Output. .Display the value of dot by the expression e. The amount actually increment the value of dot by the expression e. See +. *eMultiply the value
of dot by the expression e. Multiplication and division don't use type. In the above calculation of dot, consider the sizeof (type) to be 1. %eDivide the value of dot by the expression e. See *. < nameRestore an address saved in register name. name must be a single letter or digit. > nameSave an address in register name. name must be a single letter or
digit. = fDisplay indicator. If f is a legitimate format specifier (see Formatted Output), then the value of dot is displayed using an assignment indicator. The address pointed to by dot has its contents changed to the value of the expression e or to
the ASCII representation of the quoted (") string s. This can be useful for changing directory names or ASCII file information. =+ eChange the value of dot using a decremental assignment. The address pointed to by dot has its contents incremental assignment.
of the address pointed to by dot by expression e. Commands A command must be prefixed by a colon (:). To view a potentially unmounted disk in a reasonable manner, fsdb
supports the cd, pwd, ls, and find commands. The functionality of each of these commands basically matches that of its UNIX counterpart. See cd(1), pwd(1), ls(1), and find(1) for details. The *, ,, ?, and - wildcard characters are also supported: base[=b]Display or set the base. All input and output is governed by
the current base. Without the = b, displays the current base. Otherwise, sets the current base to b. Base is interpreted using the base. The default for base is hexadecimal. blockConvert the value of dot to a block address. cd [dir]Change the current directory to
directory dir. The current values of inode and dot are also updated. If dir is not specified, changes directory, and dot now points to this entry. fileSet the value of dot as a relative block count from the beginning of the file
The value of dot is updated to the first byte of this block. find dir [-name n] [-inum i]Find files by name or i-number. Recursively searches directory dir and below for file names whose i-number matches i or whose name matches are not necessary or increase and increase are not necessary or increase are n
accepted. fill=pFill an area of disk with pattern p. The area of disk is delimited by dot and count. inode address. If successful, the current value of dot is set to the current inode and that
inode is displayed in inode format. Is [-R][-l] pat1 pat2...List directories or files. If no file is specified, the current directory is assumed. Either or both of the options can be used (but, if used, must be specified before the filename specifiers).
number and the name; use the inode command with? i to get more information. override is toggled to on. prompt "p" Change the solve error conditions might be override is toggled to on. prompt to p. p must be enclosed in quotes. pwdDisplay the current working directory. quitQuit fsdb. tagConvert the value of dot and if
this is a valid tag, print the volume structure according to the tag. !Escape to the shell. Inode Commands In addition to the above commands of the current inode (they still require the colon (:). They can be used to more easily display or change the particular fields. The value of dot is
only used by the :db and :ib commands. Upon completion of the current inode and sets the value of dot to the address of the link count field. The following inode commands are supported: at Access time bs Block size
ctCreation time gidGroup id lnLink number mtModification time mdMode majMajor device number mmMinor device number nmThis command actually operates on the directory command), this command allows you to change or display the directory name. For example, >
7:dir:nm="foo" gets the 7th directory entry of the current inode and changes its name to foo. Directory name larger than the field allows,, the string is truncated to fit and a warning message is displayed. szFile size uidUser ID uniqUnique ID Formatted
Output Formatted output comes in two styles and many format types. The two styles of formatted output are: structured output displays raw data. Format specifiers are preceded by the slash (/) or question mark (?) character. type is updated as
necessary upon completion. The following format specifiers are preceded by the ? character: bDisplay as directories in the current base. dDisplay as directories in the current base.
as decimal shorts or longs. x | XDisplay as hexadecimal shorts or longs. Example 2 Using fsdb as a calculator for complex arithmetic. > 2000+400%(20+20)=D Example 2 Using fsdb to display an i-number in inode
format The following command displays the i-number 386 in inode format.386 becomes the link count The following command increments the link count by
1. > :ln=+1 Example 5 Using fsdb to display the creation time as a hexadecimal long. > :ct=X Example 6 Using fsdb to display the modification time in time format. > :mt=t Example 7 Using fsdb to display in
ASCII The following command displays, in ASCII, block 0 of the file associated with the current inode. > 0:file/c Example 8 Using fsdb to display the first block's directory entries for the root inode of this file system. This command stops prematurely if the EOF is reached. >
2:ino,*?d Example 9 Using fsdb to change the current inode. The file is then displayed in ASCII. > 5:dir:inode; 0:file,*/c Example 10 Using fsdb to change the i-number The following
command changes the i-number for the 7th directory slot in the root directory slot to name. > 7:dir=3 Example 12 Using fsdb to change the name field The following command displays the 3rd block of the
current inode as directory entries. Example 13 Using fsdb to set the contents of address The following command places the ASCII string this is
some text at address 1c92434. > 1c92434="this is some text" Attributes (7), clri(8), fsck_udfs(8) Page 7 fsdb_ufs - ufs file system debugger Synopsis fsdb -F ufs [generic_options] [specific_options] special Description The fsdb_ufs
command is an interactive tool that can be used to patch up a damaged UFS file system. It has conversions to translate block and i-numbers into their corresponding disk addresses. Also included are mnemonic offsets to access different parts of an inode. These greatly simplify the process of correcting control block entries or descending the file
system tree. fsdb contains several error-checking routines to verify inode and block addresses. These can be disabled if necessary by invoking fsdb with the -o option or by the use of the o command. fsdb reads a block at a time and will therefore work with raw as well as block I/O devices. A buffer management routine is used to retain commonly used
blocks of data in order to reduce the number of read system calls. All assignment operations result in an immediate write-through of the corresponding block. Note that in order to modify any portion of the disk, fsdb must be invoked with the w option. Wherever possible, adb-like syntax was adopted to promote the use of fsdb through familiarity.
Options The following option is supported: -oSpecify UFS file system specific options. These options can be any combination of the following separated by commas (with no intervening spaces). The options available are: ? Display usage oOverride some error conditions p='string'set prompt to string wopen for write Usage Numbers are considered
hexadecimal by default. However, the user has control over how data is to be displayed or accepted. The base can be overridden temporarily for input by preceding hexadecimal numbers with '0x', preceding
decimal numbers with '0t', or octal numbers with '0t', or octal numbers beginning with a-f or A-F must be preceded with '0x' to distinguish them from commands. Disk addressing by fsdb is at the byte level. However, fsdb offers many commands to convert a desired inode, directory entry, block, superblock and so forth to a byte address. Once the
address has been calculated, fsdb will record the result in dot (.). Several global values are maintained by fsdb: the current count (referred to as count), and the current type (referred to as type). Most commands use the preset value
of dot in their execution. For example, > 2:inode will first set the value of dot to 2, ':', will alert the start of a command, and the inode command will set inode to 2. A count is specified after a ','. Once set, count will remain at this value until a new command is encountered which will then reset the value back to 1 (the default). So, if > 2000,400/X is
typed, 400 hex longs are listed from 2000, and when completed, the value of dot will be 2000 + 400 * sizeof (long). If a RETURN is then typed, the output routine will use the current values of dot, count, and type and display 400 more hex longs. A '*' will cause the entire block to be displayed. End of fragment, block and file are maintained by fsdb.
When displaying data as fragments or blocks, an error message will be displayed when the end of file is reached. When displaying data using the db, ib, directory, or file commands an error message is displayed if the end of file is reached. When displaying data using the end of a directory or file and getting unknown and
unwanted results. An example showing several commands and the use of RETURN would be: > 2:ino; 0:dir?d or 
is again synonymous. Expressions The symbols recognized by fsdb are: RETURN update the value of dot by the current value of type and display using the current value of type and type a
count indicator. The global value of count will be updated to count. The value of count will remain until a new command is run. A count specifier f. See Formatted Output. /f display in unstructured style with format
specifier f See Formatted Output. .the value of dot by the expression e. The amount actually increment the value of dot by the expression e. See + .* e multiply the value of dot by the expression e. Multiplication and
division don't use type. In the above calculation of dot, consider the sizeof(type) to be 1. %e divide the value of dot by the expression e. See *. name save an address in register name. name must be a single letter or digit. =f display indicator. If f is a legitimate format specifier, then the value of dot is displayed using the format specifier f. See
Formatted Output. Otherwise, assignment is assumed See = . = [s ] [e] assignment indicator. The address pointed to by dot has its contents changed to the value of the expression e or to the ASCII representation of the expression e or to the ASCII representation of the expression e or to the ASCII representation of the expression e or to the ASCII representation of the expression e or to the ASCII representation of the expression e or to the ASCII representation of the expression e or to the ASCII representation of the expression e or to the ASCII representation of the expression e or to the ASCII representation of the expression e or to the ASCII representation of the expression e or to the ASCII representation of the expression e or to the ASCII representation of the expression e or to the ASCII representation of the expression e or to the ASCII representation of the expression e or to the ASCII representation of the expression e or to the ASCII representation of the expression e or to the ASCII representation of the expression e or to the ASCII representation of the expression e or to the ASCII representation of the expression e or to the ASCII representation of the expression e or to the ASCII representation of the expression e or to the ASCII representation of the expression e or to the ASCII representation of the expression e or to the ASCII representation of the expression e or to the expression e or to the ASCII representation of the expression e or to the expres
address pointed to by dot has its contents incremented by expression e. =-e decremental assignment. The address pointed to by dot has its contents decremented by expression e. Commands may be entered
on one line by separating them by a SPACE, TAB or ';'. In order to view a potentially unmounted disk in a reasonable manner, fsdb offers the cd, pwd, ls and find commands for details. The '*', '?', and '[-]' wild card characters are
available. base=b display or set base. As stated above, all input and output is governed by the current base is displayed. Otherwise, the current base is displayed.
base is hexadecimal. blockconvert the value of dot to a block address. cddir change the current directory to directory to directory to directory to directory to directory the current inode is a directory, then the value of dot is a directory to directo
converted to a directory slot offset in that directory and dot now points to this entry. filethe value of dot is taken as a relative block count from the beginning of the file. The value of dot is updated to the first byte of this block. find dir [ -name n] [-inum i]find files by name or i-number. find recursively searches directory dir and below for filenames
whose i-number matches i or whose name matches i or whose name matches pattern n. Note that only one of the two options (-name or -inum) may be used at one time. Also, the -print is not needed or accepted. fill=p fill an area of disk with pattern p. The area of di
between the fragment command and the block command is the amount that is able to be displayed. inodeconvert the value of dot to an inode address. If successful, the current value of dot is set to the current inode
and that inode is displayed in inode format. log chkrun through the valid log entries without printing any information and verify the layout. log deltacount the number of deltas into the log, using the value of dot as an offset into the log, using the value of dot as an offset into the log. No checking is done to make sure that offset is within the head/tail offsets. log headdisplay the header information
about the file system logging. This shows the block allocation for the log (BOL) and the end of the log (BOL) and the end of the log (EOL). Is -R | | -R | -R | | -R | | -R 
no file is specified, the current directory is assumed. Either or both of the options may be used (but, if used, must be specified before the filename specifiers). Also, as stated above, wild card characters are available and multiple arguments may be given. The long listing shows only the i-number and the name; use the inode command with '?i' to get
more information, overridetoggle the value of override. Some error conditions may be overrided is toggled on, prompt to p. p must be surrounded by (")s. pwddisplay the current working directory, quitquit fsdb, sbthe value of dot is taken as a cylinder group number and then converted to the address of the
superblock in that cylinder group. As a shorthand, ':sb' at the beginning of a line will set the value of dot to the sperblock format. shadow inode data. !escape to shell Inode Commands In addition to the above commands, there
are several commands that deal with inode fields and operate directly on the current inode (they still require the ':'). They may be used to more easily display or change the particular fields. The value of dot is only used by the ':db' and ':b' commands, the value of dot is changed to point to that particular field. For
example, >: ln=+1 would increment the link count of the current inode and set the value of dot to the address of the link count field. at access time. bsblock size. ctcreation time. dbuse the current value of dot as a direct block index, where direct blocks number from 0 - 11. In order to display the block size. ctcreation time.
or fragment command. For example, > 1:db:block, 20/X would get the contents of data block field 1 from the inode and convert it to a block address. 20 longs are then displayed in hexadecimal. See Formatted Output. gidgroup id. ibuse the current value of dot as an indirect block index where indirect blocks number from 0 - 2. This will only get the
 indirect block itself (the block containing the pointers to the actual blocks). Use the file command and start at block 12 to get to the actual blocks, Inlink count, mtmodification time, mdmode, maimaior device number, minminor device number number, minminor device number 
desired directory entry (using the directory command), this command will allow you to change or display the directory name. For example, > 7:dir:nm="foo" will get the 7th directory entry of the current inode and change its name to foo. Note that names cannot be made larger than the field is set up for. If an attempt is made, the string is truncated to
fit and a warning message to this effect is displayed. sishadow inode. szfile size. uiduser id. Formatted Output There are two styles and many format types. The two styles and the like. Unstructured displays raw data. The following shows the different
ways of displaying: ? c display as evalinder groups idisplay as hexadecimal shorts or longs x Xdisplay as hexadecimal shorts or longs the format specifier immediately follows the '/'
or '?' character. The values displayed by '/b' and all '?' formats are displayed in the current base. Also, type is appropriately updated upon completion. Example 2 Displaying an i-
number in Inode Format The following command displays i-number 386 in an inode format. This now becomes the current inode: > 386:ino?i Example 4 Incrementing the Link Count The following command increments the link count
by 1: >:ln=+1 Example 5 Displaying the Creation Time The following command displays the modification time in time format: >:mt=t Example 7 Displaying in ASCII The following command displays in ASCII, block zero of
the file associated with the current inode: > 0:file/c Example 8 Displaying the First Block's Worth of Directory Entries The following command displays the first block's worth of Directory Entries The following command displays the first block's worth of Directory Entries The following Changes to the Current Inode The
following command displays changes the current inode to that associated with the 5th directory entry (numbered from zero) of the current inode. The first logical block of the file is then displayed in ASCII: > 5:dir:inode; 0:file,*/c Example 10 Displaying the Superblock The following command displays the superblock of this file system: > :sb
Example 11 Displaying the Cylinder Group The following command displays cylinder group information and summary for cylinder group 1: > 1:cg?c Example 12 Changing the i-number for the seventh directory slot in the root directory to 3: > 2:inode; 7:dir=3 Example 13 Displaying as Directory Entries
The following command displays the third block of the current inode as directory entries: > 2:db:block,*?d Example 14 Changing the Name Field The following command changes the name field in the directory slot to name: > 7:dir:nm="name" Example 15 Getting and Filling Elements The following command gets fragment 3c3 and fill 20 type
elements with 0x20: > 3c3:fragment, 20:fill=0x20 Example 16 Setting the Contents of an Address The following command sets the contents of address 2050 to 0xffffffff may be truncated depending on the current type: > 2050=0xffff Example 17 Placing ASCII The following command places the ASCII for the string at 1c92434: >
1c92434="this is some text" Example 18 Displaying Shadow Inode Data The following command displays all of the shadow inode data in the shadow inode data in the shadow inode data in the following attributes: Availabilitysystem/file-system/ufs See Also
ufs(4FS), dir ufs(5), attributes(7), clri(8), fsck ufs(8) Warnings Since fsdb reads the disk raw, extreme caution is advised in determining its availability of fsdb on the system. Suggested permissions are 600 and owned by bin. Notes The old command line syntax for clearing i-nodes using the ufs-specific '-z i-number' option is still supported by the new
debugger, though it is obsolete and will be removed in a future release. Use of this flag will result in correct operation, but an error message will be printed warning of the impending obsolescence of this option to the command. The equivalent functionality is available using the more flexible clri(8) command. Page 8 fsflush, kmem task, pageout,
sched, vmtasks - process not intended for user interaction Synopsis process name arguments Description The Oracle Solaris operating system relies on a number of "behind the scenes" processes that are Private interfaces (see attributes(7)) and that are not intended for customer interaction. The user has no responsibility for starting, stopping, or, in
any other way, manipulating these processes. Using tools such as ps(1), these processes are visible to users. Their presence in ps output is of no consequence to a user. Attributes See attributes (7) for descriptions of the following attributes: Availability Various packages
Interface Stability Private See Also ps(1), attributes(7) Page 9 fsirand - install random inode generation numbers on all the inodes on device special pescription fsirand installs a file systems (-p) special pescription fsirand installs random inode generation numbers on all the inodes on device special pescription fsirand installs random inode generation numbers on all the inodes on device special pescription fsirand installs a file systems exported by
NFS. fsirand must be used only on an unmounted file system in single-user mode, if the system is immediately re-booted afterward. Options -pPrint out the generation numbers for all the inodes, but do not change the generation numbers. Attributes See
attributes(7) for descriptions of the following attributes: Availabilitysystem/file-system/ufs See Also attributes(7), fsck(8) Page 10 fssnap -d [-F FSType] [-V] /mount/point | dev fssnap -i [-F FSType] [-V
dev Description The fssnap command creates a stable, read-only snapshot of a file system when given either an active mount point or a special device containing a mounted file system is stable and
consistent, an application updating files when the snapshot is created might leave these files in an internally inconsistent, truncated, or otherwise unusable state. In such a case, the snapshot will contain these partially written or corrupted files. It is a good idea to ensure active applications are suspended or checkpointed and their associated files are
also consistent during snapshot creation. File access times are not updated while the snapshot is printed to standard output when a snapshot is printed to stand
the file system type to be used. The FSType should either be specified here or be determined by matching the block special device with an entry in the /etc/vfstab table, or by consulting /etc/default/fs. -iDisplays the state of any given FSType snapshot. If a mount-point or device is not given, a list of all snapshots on the system is displayed. When a
mount-point or device is specified, detailed information is file-system dependent. See the FSType-specific fishap man page for details. -o special optionsSee the FSType-specific man page for fishap man page for details. -o specified file system dependent. See the FSType-specific fishap man page for details. -o specified file system dependent. See the FSType-specific fishap man page for details. -o specified file system shape file system shape for details. -o specified file system shape file system s
not execute the command. Operands The following operands are supported: /mount/pointThe directory where the file system resides. Examples See FSType-specific man pages for examples. Exit Status The following exit values are returned: 0Successful completion. >0An error occurred. Files /etc/vfstabSpecifies file system type.
/etc/default/fsSpecifies the default local file system type. Attributes (7), for descriptions of the following attributes: Availabilitysystem/core-os See Also attributes (7), fssnap ufs - create a temporary snapshot of a UFS file system Synopsis fssnap [-F ufs] [-
V] -o backing-store=path, [specific-options] /mount/point fssnap -d [-F ufs] [-V] [-o specific-options] /mount/point fssnap command queries, creates, or deletes a temporary snapshot of a UFS file system. A snapshot is a point-in-time image of a file system that provides a stable and
unchanging device interface for backing-store file, System snapshot, you must specify the file system to be captured and the backing-store file, fssnap automatically creates additional backing-store file. The backing-store file system to be captured and the backing-store file system snapshot subsystem saves old file system to be captured and the backing-store file.
store files on an as-needed basis. The number and size of the backing store file (s). This location must be different from the file system that is being captured in a snapshot. The backing-store file(s) can reside on any
type of file system, including another UFS file system or an NFS-mounted file system. -i Displays the state of one or all UFS snapshots. If a mount-point or device is not specified, a list of all snapshots on the system is displayed. When a mount-
point or device is specified, detailed information is provided for the specified file system snapshot by default. Use the -o options with the -i option to specify what snapshot information is displayed for the data. Sizes are all in bytes, and the
output is not internationalized or localized. The information is displayed on one line per option. Unrecognized options specified and there is a one-to-one correspondence between an output line and an option. The following -o options
display specific information for a given snapshot. See the EXAMPLES section for examples of how to use these options. snapnumber Display the snapshot number Display the mount point of the master file system. state Display the state of the snapshot
device. backing-store Display the location of the first backing-store files, with the suffixes .2, .3, and so forth. backing-store files have the same name as the first backing-store files, with the suffixes remaining the location of the sizes of the backing-store files.
backing-store file(s). createtime Display the time that the snapshot was created. chunksize Display the copy-on-write granularity. -o specific-options Without -d or -i, the default action is to create a snapshot. Specify the following options when creating a snapshot. All of these options are discretionary, except for the backing-store file, which is
required, backing-store = path Uses path in the creation of the backing-store file is created within it using a name that is generated automatically. If path is not a directory and does
not already exist, then a backing-store file with that name is created. If more than one backing-store file is required, fssnap creates subsequent files automatically. The second and subsequent files have the same name as the first file, with suffixes of .2, .3, and so forth. This option can be abbreviated as bf=path or bs=path. unlink Unlinks the backing-store file with suffixes of .2, .3, and so forth. This option can be abbreviated as bf=path or bs=path. unlink Unlinks the backing-store file with suffixes of .2, .3, and so forth. This option can be abbreviated as bf=path or bs=path. unlink Unlinks the backing-store file with suffixes of .2, .3, and so forth. This option can be abbreviated as bf=path or bs=path. unlink Unlinks the backing-store file with suffixes of .2, .3, and so forth. This option can be abbreviated as bf=path or bs=path. unlink Unlinks the backing-store file with suffixes of .2, .3, and so forth.
store file after the snapshot is created. This option specifies that the backing-store file does not need to be removed manually when the snapshot is deleted. This option is not specified, the backing-store file should be removed manually after the snapshot is
deleted, chunksize=n [k,m,q] Uses n for the chunk size is the granularity of the data that is sent to the backing store. Specify chunksize in the following units: k for kilobytes, m for megabytes, or g for gigabytes, by default, chunk size is four times the block size of the file system (typically 32k), maxsize=n[k,m,q] Does not allow the sum of
the sizes of the backing-store file(s) to exceed n, where n is the unit specified. The snapshot is deleted automatically when the sum of the sizes of the backing-store file(s) exceeds maxsize in the following units: k for kilobytes, m for megabytes, or g for gigabytes. raw Displays to standard output the name of the raw device instead of
the block device when a snapshot is created. The block device is printed by default (when raw is not specified). This option makes it easier to embed fissnap commands in the command line for commands that require the raw device instead. Both devices are always created. This option affects only the output. Operands The following operands are
supported: mount-point The directory where the file system resides, special device for the file system, such as /dev/dsk/c0t0d0s7. Example 1 Creating a Snapshot of a file system. The block special device created for the snapshot is /dev/fssnap/0. # fssnap -F ufs -o
backing-store=/var/tmp /export/home /dev/fssnap/0 Example 2 Backing Up a File System Snapshot Without Having To Unmount the File System Snapshot Without Having
snapshot is removed in the second command. # ufsdump Ouf /dev/rmt/0 `fssnap -F ufs -o raw,bs=/export/home in the second command removes the /export/home in the /ex
# ufsdump Ouf /dev/rmt/0 `fssnap -F ufs -o maxsize=400m.backing-store=/export/snap.raw /export/home Example 4 Performing an Incremental Dump of a Snapshot of /var. Note the use of the N option to ufsdump, which writes the name of the device being
dumped, rather than the name of the snapshot device, to /etc/dumpdates file. See ufsdump(8) for details on the N flag. # ufsdump lfNu /dev/rmt/0 /dev/rdsk/c0t3d0s2 `fssnap -F ufs -o raw,bs=/export/scratch,unlink /var` Example 5 Finding Out What Snapshots Currently Exist The following command displays the currently existing snapshots. # fssnap
i 0 /src 1 /export/home Example 6 Mounting a File System Snapshot, mount it on /tmp/mount for temporary read-only access. # fssnap -F ufs -o backing-store=/nfs/server/scratch /export/home /dev/fssnap/1 # mkdir /tmp/mount # mount -F ufs -o ro
/dev/fssnap/1 /tmp/mount Example 7 Creating a File System Snapshot and Unlinking the backing-store file, check the state of the snapshot. # fssnap -o bs=/scratch,unlink /src /dev/fssnap/0
```

fssnap -i /src Snapshot number: 0 Block Device: /dev/fssnap/0 Raw Device: /dev/fssnap/0 Rount point: /src Device state: active Backing store size: Unlimited Snapshot create time: Sat May 06 10:55:11 2000 Copy-on-write granularity: 32 KB Example 8 Displaying the Size and Location of the Backing-store File(s) and the Creation Time for the Snapshot The following example displays the size of the backing-store file (s) in bytes, the location of the backing-store-len, backing-store-len, backing-store-len, backing-store-len, backing-store files stored in /snapshot2, they will have names of the form file (for the first file), file.1, file.2, and so forth. Exit Status The following extributes: Availability

```
system/file-system/ufs The script-readable output mode is a stable interface that can be added to, but will not change. See Also ntpd(8), mlock(3C), attributes(7) Notes The fssnap device files should be treated like a regular disk block or character device. The association between a file system and the snapshot
system is in use by system accounting The file system contains a local swap file The file system is used as backing store by an applications, such as ntpd (delivered in the service/network/ntp package). These conditions result in fssnap being unable to write lock the file
system prior to performing the snapshot. Page 12 fsstat - report file system statistics Synopsis fsstat [-A|a|b|f|i|ln|v|Z] [-ph] [-T d|u] [[-z zone]...] {-F | {fstype|path}...} [interval [count [start time]]] Description fsstat reports kernel file operation activity by the file system type (fstype) or by the path name, which is converted to a mount point. The first
set of lines of output reports all activity since: The file system module was loaded (in the case of fstype) The file system was mounted (in the case of mount point) Statistics are gathered at the file system independent layer at both the f
the NOTES section of this man page.) The output of fsstat is dependent on the mode (option) requested. All statistic fields are displayed as 100 2048 is displayed as 2K 3000000 is displayed as
2.86M The unit modifiers are: K (Kbyte), M (Mbyte), G (Gbyte), T (terabyte), During the execution of fsstat, the state of the system can change message is included in the fsstat output in one of the following forms: After the state change messages are displayed, fsstat continues to display the
statistics as directed. If all of the fstypes and mount points that fsstat was reporting on are no longer available, then fsstat exits. The user is required to specify the -F option (all available file system activity. This display combines similar operations
into general categories as follows: new file Number of creation operations for file system objects (for example, files, directories, symlinks, etc.) name remov Number of object attribute retrieval operations attr set Number of object attribute change operations
lookup ops Number of object lookup operations read operations read operations read operations read operations read operations write operations write operations read operations read operations write operations read operations read operations write operations write operations write operations read operations read operations read operations write operations with the operation will be a supplied to the operation will be a supplied 
displayed in the last column. Options The following options are supported: -A Report aggregate activity for the specified fstypes across all zones. This is the default behavior if neither -z nor -Z are specified. When used in conjunction with -z or -Z, the -A option will additionally report on a separate line the aggregate for the specified fstypes across all
zones. -a Report the activity for kernel attribute modification calls getsec Number of file attribute retrieval calls setattr Number of file attribute modification calls getsec Number of file security attribute modification calls getsec Number of file attribute
mount point) is displayed in the last column. -b Report to the full activity for all kernel file operations (-i and -v combined). -F Report to all available file system types. -f Report to all available file operations and virtual memory operations. #ope Number
of calls for this operation bytes Average transfer size in bytes (only applies to read, write, readdir) The entity being reported on (fstype or mount point) is displayed in the first row. -h Print a header for each iteration. -i Reports the activity for kernel I/O operations. The following statistics are reported: read ops Number of data read calls read bytes
Number of bytes read write ops Number of bytes Number of bytes Number of bytes Number of internal file system unlock operations The entity being reported on (fstypes)
or mount point) is displayed in the last column. -l Reports latency information for kernel I/O operations. The following statistics are reported: read ops Number of data read calls read bytes Number of bytes written write time Average write latency
rdir ops Number of read directory calls rdir bytes Number of bytes read by reading directories rdir time Average read directory call latency The entity being reported on (fstype or mount point) is displayed in the last column. -n Reports the activity for kernel naming operations. The following statistics are reported: lookup Number of file name
retrieval calls creat Number of file creation calls remove calls link Number of directory creation calls remove calls link Number of directory removal calls remove calls link
entity being reported on (fstype or mount point) is displayed in the last column. -p Report output in parsable format. -v Reports the activity for calls mapping a file addmap Number of calls setting additional mapping to a mapped file delmap Number of calls setting additional mapping to a mapped file delmap Number of calls setting additional mapping to a mapped file delmap Number of calls setting additional mapping to a mapped file delmap Number of calls setting additional mapping to a mapped file delmap Number of calls setting additional mapping to a mapped file delmap Number of calls setting additional mapping to a mapped file delmap Number of calls setting additional mapping to a mapped file delmap Number of calls setting additional mapping to a mapped file delmap Number of calls setting additional mapping to a mapped file delmap Number of calls setting additional mapping to a mapped file delmap Number of calls setting additional mapping to a mapped file delmap Number of calls setting additional mapping to a mapped file delmap Number of calls setting additional mapping to a mapped file delmap Number of calls setting additional mapping to a mapped file delmap Number of calls setting additional mapping to a mapped file delmap Number of calls setting additional mapping to a mapped file delmap Number of calls setting additional mapping and setting additional mapping additional mapping and setting additional mapping 
deleting mapping to a file getpag Number of calls retrieving a page of data from a file putpag Number of calls to transfer pages in file system swap files The entity being reported on (fstype or mount point) is displayed in the last column. -T u|d Display a time stamp. Specify u for a printed
representation of the internal representation of time (see time(2)) Specify d for the standard date format. (See date(1)). The time stamp is only used when an interval is set. -Z Report on activity in the specified zone. Multiple -z options can
be specified to monitor multiple zones. If -z is specified, the user is notified of state changes only for explicitly specified zones. Operands The file system module must be loaded. interval Report once each interval
seconds. path Specify the path(s) of the mount point(s) to be reported. If path is not a mount point, the mount point containing path will be determined and displayed in the output. start_time Specifies the time to start querying the statistics. Historical statistics, if available, is queried from sstore(1). Accepts ISO8601 formatted times, specifically the
UTC or local time forms. For example: 2015-02-22T05:09:24Z (UTC time) 2015-02-22T05:09:24Z (utc. time) If no interval is specified, a single report is printed and fistat exits. If an interval is specified but no count is specified, fistat exits. If an interval is specified but no count is specified, fistat exits.
0 0 0 0 nfs 18.3K 3 5 0 0 0 0 1.03K 2 346 nfs3 535 0 0 0 0 0 46 0 4 nfs4 146 24 15 0 0 4 0 4 0 0 tmpfs Example 3 Displaying Attribute Activity The following example shows the attribute activity for the FS type ufs and the mounted file systems "/" and "/export/home" every three seconds for every third iteration: # fsstat -a ufs / /export/home 3 3
getattr setattr getsec setsec 378K 91.9K 11.8K 0 ufs 367K 82.3K 11.6K 0 / 11.3K 9.6K 198 0 /export/home 2.33K 1.06K 73 0 ufs 1.95K 766 71 0 / 361 317 2 0 /export/home 2.33K 1.06K 78 0 ufs 1.64K 451 77 0 / 711 631 1 0 /export/home Example 4 Displaying File Operation
Statistics The following example shows the statistics for each file operation for "/" (using the -f option): $ festat -f / Mountpoint: / operation #ops bytes open 8.54K close 9.8K read 43.6K 65.9M write 1.57K 2.99M ioctl 2.06K setfl 4 getattr 40.3K setattr 38 access 9.19K lookup 203K create 595 remove 56 link 0 rename 9 mkdir 19 rmdir 0 readdir 2.02K
2.27M symlink 4 readlink 8.31K fsync 199 inactive 2.96K fid 0 rwlock 47.2K rwunlock 47.2K seek 29.1K cmp 42.9K frlock 4.45K space 8 realvp 3.25K getpage 104K putpage 2.69K map 13.2K addmap 34.4K delmap 33.4K poll 287 dump 0 pathconf 54 pageio 0 dumpctl 0 dispose 23.8K getsecattr 697 setsecattr 0 shrlock 0 vnevent 0
 Example 5 Displaying per-Zone Statistics for All Zones The following example shows per-zone statistics for each zone on the system, as well as a system-wide aggregate for fstypes tmpfs and zfs. $ fsstat -A -Z tmpfs zfs new name attr attr lookup rddir read read write write file remov chng get set ops ops bytes ops bytes 125K 116K 8.92K
846K 1.25K 1.36M 252 1013K 913M 1.52M 1.55G tmpfs 98.9K 89.8K 8.87K 600K 1.19K 1.33M 226 394K 253M 1.04M 1.07G tmpfs:global 2.49K 2.3X 23.3K 13 226K 13 24.1K 0 562K 574M 452K 425M tmpfs:zone2 82.7K 232K 77.6K 4.72M 73.6K 22.7M 464K 2.88M 6.17G 828K 60.17G 828K 80.17G 82
8.19G zfs 82.1K 231K 77.3K 4.46M 73.5K 21.8M 444K 2.53M 5.71G 809K 8.12G zfs:global 102 88 28 83.3K 68 326K 3.16K 238K 307M 10.5K 54.2M zfs:zone2 Example 6 Displaying per-Zone Statistics for Specific Zones The following example shows per-zone statistics for zones
zone1 and zone2, as well as a system-wide aggregate, for fstypes tmpfs and zfs. $ fsstat -A -Z zone1 -z zone2 tmpfs zfs new name name attr attr lookup rddir read read write write file remov chng get set ops ops bytes 125K 116K 8.92K 846K 1.25K 1.36M 252 1013K 913M 1.52M 1.55G tmpfs 2.49K 2.42K 32 20.5K 45 3.82K 26 56.8K
could be a failed system call or another internal error. 2 Invalid command-line options were specified. Attributes: Availability See below. The command-line options are Uncommitted. The human-readable output is not considered an interface.
See Also date(1), time(2), attributes(7) Notes All display options (-a, -f, -i, -n, -v) are mutually exclusive. Entering more than one of these options will result in an error. The fstype and path operands must appear after the option, but before the interval or count on the command line. For example, "fsstat -a fstype interval". Preference is given to fstype
./10). When an interval is used, headers repeat after more than 12 lines of statistics have been displayed in the current interval have completed. Statistics are not displayed for all pseudo-filesystems. The output displayed in the current interval have completed. Statistics are not displayed for all pseudo-filesystems. The output displayed for all pseudo-filesystems.
systems may not be recognized by fsstat. The command-line options are classified as Uncommitted and could change. The output is not recommended. Page 13 fstyp - determine file system type
Synopsis fstyp [-a | -v] special [:logical-drive] Description fstyp allows the user to determine the file system type of unmounted file system type to be checked is executed; each of these modules applies an appropriate heuristic to determine whether the supplied special file is of the type
for which it checks. If it is, the program prints on standard output the usual file system identifier for that type (for example, ufs) and exits with a return code of 0; if none of the module succeeds, the error message unknown fstyp
(multiple matches) is returned and the exit status is 2. Other errors are printed in the same format. This command is unreliable and its results should not be used to make any decisions about subsequent use of a storage device or disk partition. Options -a Output all available file system attributes. If a file system has been successfully identified, and
this option is specified, the FSType identifier is followed by one or more "name-value" pairs, one per line, in the format: name: values are put in single quotes. Nested "name-value" list increases the indentation of its values by four whitespaces. For an array of "name
value" pairs, one array entry is printed per line, with the index following the name in square brackets. For instance, in the following example, "top list array" list array" list array" element is an integer array "int array" containing three elements.
top_string: 'String' top_list: string_array[0]: 'S0' string_array[1]: 'S1' list_array[0]: int_one: 1 string_two: 'S2' list_array[1]: 2 int_array[1]: 1 int_array[1]: 2 int_array[1]: 2 int_array[1]: 'S1' list_array[1]: int_array[1]: 1 int_array[1]: 2 int_array[1]: 2 int_array[1]: 'S1' list_array[1]: 'S1' list_array[1]: 1 int_array[1]: 2 int_array[1]: 2 int_array[1]: 2 int_array[1]: 2 int_array[1]: 1 int_array[1]: 1 int_array[1]: 2 int_array[1]: 2 int_array[1]: 2 int_array[1]: 1 int_array[1]: 1 int_array[1]: 2 int_array[1]: 2 int_array[1]: 2 int_array[1]: 1 int_array[1]: 1 int_array[1]: 1 int_array[1]: 1 int_array[1]: 2 int_array[1]: 1 int_array[1]: 2 int_array[1]: 1 int_array[1]:
damaged or was not unmounted cleanly and the fsck(8) command must be run before this file system can be mounted. gen_guid Globally unique identifier. This string uniquely identifies the file system describe or identify
the file system. -v Produce verbose output. This is usually information about the file systems superblock and varies across different FSTypes. See ufs(4FS), mkfs_ufs(8), and tunefs(8) for descriptions of the following attributes: Availability system/core-os See Also libfstyp(3LIB), hsfs(4FS), ufs(4FS), uf
attributes(7), fsck(8), mkfs ufs(8), tunefs(8) Notes The use of heuristics implies that the result offstyp is not guaranteed to be accurate. This command is unreliable and its results should not be used to make any decisions about subsequent use of a storage device or disk partition. Page 14 ftp-proxy - Internet File Transfer Protocol proxy daemon
Synopsis ftp-proxy [-A on | off] [-a address] [-b address] [-b address] [-b address] [-r on | off] [-r timeout] [-r on | off] [-r timeout] [-v all | on | off] [-a address] [-b address] [-
address] [-D level] [-m maxsessions] [-P port] [-p port] [-p port] [-r on | off] [-T tag] [-t timeout] [-v all | on | off] DESCRIPTION ftp-proxy is a proxy for the Internet File Transfer Protocol making con- nections over IPv4 NAT possible. FTP control connections should be redi- rected into the proxy using the PF rdr-to command, after which the proxy is a proxy for the Internet File Transfer Protocol making con- nections over IPv4 NAT possible.
connects to the server on behalf of the client. The proxy allows data connections from the client to the server have their source address rewritten so they appear to come from the proxy. Consequently, all connections from the server to the proxy have their
destination address rewritten, so they are redirected to the client. The proxy uses the FTP control connection is from $client to $server, the proxy is connected to the server and $orig server 
are the same unless -R is used to force a dif- ferent $server to $client port $port \ nat-to $crive mode (PASV): pass in from $server to $client port $port \ nat-to $crive mode (PASV): pass in from $server to $crive mode (PASV): pass in from 
$proxy_port \ rdr-to $server port $port pass out from $client to $server port $port nat-to $proxy The options are as follows: -A Only permit anonymous FTP connections. Either user "ftp" or user "anonymous" is allowed. Solaris Note: you need to specify on | off to enable/disable anonymous-only mode. -a address The proxy will use this as the source
 address for the control connection to a server. -b address Address where the proxy will listen for redirected control con- nections. The default is 5. -m maxsessions Maximum number of concurrent FTP sessions. When the proxy reaches this limit, new
connections are denied. The default is 100 sessions. The limit can be lowered to a minimum of 1, or raised to a maximum of 500. -P port Fixed server port. Only used in combination with -R. The default is port 8021. -R address Fixed server address, also known as
reverse mode. The proxy will always connect to the same server, regardless of where the client wanted to connect to (before it was redirected). Use this option to proxy for a server behind NAT, or to forward all connections to another proxy. -r Rewrite sourceport to 20 in active mode to suit ancient clients that insist on this RFC property. Solaris Note
you need to specify on | off to enable/disable RFC compliant mode. -T tag The filter rules will add tag tag to data connections, and will use match rules instead of pass ones. This way alternative rules that use the tagged keyword can be implemented following the ftp-proxy anchor. These rules can use special PF features like route-to, reply-to, label,
overload, etc. that ftp-proxy does not implement itself. There must be a matching pass rule after the ftp-proxy anchor or the data connections will disconnect. The maximum is 86400 seconds, which is also the default. Do not set this too low, because
the con- trol connection is usually idle when large data transfers are taking place. -v Set the 'log' flag on pf rules committed by ftp-proxy. Use twice to specify one of the values below: off nothing is logged on log only packets, which create state for
data session (equivalent to -v on OpenBSD) all log all packets, which belong to data session (equivalent to -vv on OpenBSD) all log all packets, which belong to data session (equivalent to -vv on OpenBSD) all log all packets, which belong to data session (equivalent to -vv on OpenBSD) all log all packets, which belong to data session (equivalent to -vv on OpenBSD) all log all packets, which belong to data session (equivalent to -vv on OpenBSD) all log all packets, which belong to data session (equivalent to -vv on OpenBSD) all log all packets, which belong to data session (equivalent to -vv on OpenBSD) all log all packets, which belong to data session (equivalent to -vv on OpenBSD) all log all packets, which belong to data session (equivalent to -vv on OpenBSD) all log all packets, which belong to data session (equivalent to -vv on OpenBSD) all log all packets, which belong to data session (equivalent to -vv on OpenBSD) all log all packets, which belong to data session (equivalent to -vv on OpenBSD) all log all packets, which belong to data session (equivalent to -vv on OpenBSD) all log all packets, which belong to data session (equivalent to -vv on OpenBSD) all log all packets, which belong to data session (equivalent to -vv on OpenBSD) all log all packets, which belong to data session (equivalent to -vv on OpenBSD) all log all packets, which belong to data session (equivalent to -vv on OpenBSD) all log all packets, which belong to data session (equivalent to -vv on OpenBSD) all log all packets, which belong to data session (equivalent to -vv on OpenBSD) all log all log all packets, which belong to data session (equivalent to -vv on OpenBSD) all log all log
necessary. anchor "network:firewall:ftp-proxy:YOUR_INSTANCE_NAME with instance name SMF uses. For default instance it should read as follows: anchor "network:firewall:ftp-proxy:default/*" pass in quick inet proto tcp from (self) to any port ftp Substitute YOUR_INSTANCE_NAME with instance name SMF uses. For default instance it should read as follows: anchor "network:firewall:ftp-proxy:default/*" pass out inet proto tcp from (self) to any port ftp Substitute YOUR_INSTANCE_NAME with instance name SMF uses. For default instance it should read as follows: anchor "network:firewall:ftp-proxy:default/*" pass out inet proto tcp from (self) to any port ftp Substitute YOUR_INSTANCE_NAME with instance name SMF uses.
SOLARIS ftp-proxy must be started as an smf(7) service: svc:/network/firewall/ftp-proxy To run ftp-proxy enable smf_method(7) in DESCRIPTION section are set using smf proper- ties. Properties processed by ftp-proxy enable smf_method(7) in DESCRIPTION section are set using smf proper- ties.
order to configure the ftp-proxy daemon are listed below. ftp-proxy/anonymous-only If set to on the proxy is started with the -A option, which allows anonymous FTP logins only. The value off is used as default. ftp-proxy/proxy-NAT-address This property sets the -a option, the source IP address the proxy uses to connect to a server. ftp-proxy/proxy
listen-address This property sets the -b option, which is the address, where the proxy accepts a connection from a client. ftp-proxy/debug-level This property sets the -D option, which is a debug level (0-7). If not set
the default value 5 is used. ftp-proxy/max-sessions This property sets the -m option, which is the maximum of concurrent FTP sessions served by the proxy. The valid range is from 1 to 500. If not specified the value 100 is used by default.
used to access a FTP server behind NAT. The default value is 21. ftp-proxy/reverse-mode-port This property sets the -r option, which is the port number used by a FTP server behind NAT. The default value is 21. ftp-proxy/reverse-mode-port This property sets the -r option, which is the port number used by a FTP server behind NAT. The default value is 21. ftp-proxy/reverse-mode-port This property sets the -r option, which is the port number used by a FTP server behind NAT.
nections. ftp-proxy/tag This property sets the -T option, which tags data connection packets with the desired tag. ftp-proxy/timeout This property sets the -t option, which specifies the number of sec- onds a FTP command session may remain idle. The maximum value is 86400 seconds (1 day). ftp-proxy/log This property sets the -v option. There are
three possible values. For off, no log action will be added to FTP data connection rules created by the proxy. The value on adds the log action. Specify- ing the value all adds the `log all' action will be added to FTP data connection rules created by the proxy. The value on adds the log action will be added to FTP data connection rules created by the proxy. The value on adds the log action will be added to FTP data connection rules created by the proxy.
for the specified smf-instance of the ftp-proxy service. -C smf-instance Creates a new instance of the ftp-proxy service to bind the listen socket to 192.168.1.2 To create anonymous-only proxy listening to port 8821,
bound to 192.168.1.2, one uses the command as follows: ftp-proxy -C anonymous instance created above to the regular mode (dis- able anonymous instance configuration use the command as follows:
ftp-proxy -c anonymous To manage the service, you need the solaris.smf.walue.network.firewall authorization. To configure service instances, you need the solaris.smf.walue.network.firewall authorization. To configure service instances, you need the solaris.smf.walue.network.firewall authorization. To configure service instances, you need the solaris.smf.walue.network.firewall authorization. To configure service instances, you need the solaris.smf.walue.network.firewall authorization. To configure service instances, you need the solaris.smf.walue.network.firewall authorization.
solaris.smf.modify authoriza- tion. ATTRIBUTES See attributes(7) for descriptions of the following attributes: +-----
                                                                                                                                                                                                                                                                                                                              ---+ |Availability | network/firewall/firewall-ftp-proxy | +----
                                        + SEE ALSO pf.conf(5), smf(7), svccfg((1M)) CAVEATS Negotiated data connection ports below 1024 are not allowed. The negotiated IP address for active modes is ignored for security rea- sons. This makes third party file transfers impossible. ftp-proxy runs as the ``daemon' user. NOTES Source code for open source
software components in Oracle Solaris can be found at downloads.html. This software was built from source available at cle/solaris-userland. The original community website at . BSD June 25, 2012 BSD Page 15 ftpdctl - ProFTPD
control program Synopsis ftpdctl [-hv] [-s Unix domain socket] action action-parameters DESCRIPTION ftpdctl (8) System Manager's Manual ftpdctl [-hv] [-s Unix domain socket] action action-parameters DESCRIPTION ftpdctl is the control program for the Professional File Transfer Profession File Transfer Profession File 
documentation for more informa- tion on the specific actions supported by the modules. OPTIONS -h,--help Display a short usage description, including all available options. -s,--socket Specifies an alternate path to be used for communicating with proftpd rather than the default Unix domain socket. The default controls socket is
/var/run/proftpd/proftpd.sock -v,--verbose Display informational messages while communicating with the proftpd daemon. AUTHORS ProFTPD is written and maintained by a number of people, full credits can be found on ATTRIBUTES See attributes(7) for descriptions of the following attributes: +--
mailing lists, detailed on Report bugs at NOTES Source code for open source software components in Oracle Solaris can be found at code-downloads.html. This software was built from source exactle from ftp://ftp.proftpd.org/dis- trib/source/proftpd-1.3.6.tar.gz. Further information about this
software can be found on the open source community website at . November 2003 ftpdctl(8) Page 16 ftpscrub - scrub the proftpd scoreboard file of stale entries Synopsis ftpscrub DESCRIPTION The
ftpscrub command provides a way to scrub the scoreboard file on demand, at times which run proftpd in inetd mode. OPTIONS -h,--help Display a short usage description, including all available options. -f,--file scoreboard file on demand, at times which run proftpd in inetd mode. OPTIONS -h,--help Display a short usage description, including all available options. -f,--file scoreboard file on demand, at times which run proftpd in inetd mode.
(configured via the ScoreboardFile directive in proftpd.conf). If proftpd's default directory has been changed via this directive, ftpscrub must either be recom- piled, or this option must be used in order to find proftpd's scoreboard. -v,--verbose Reports additional information while scrubbing the score- board. FILES /usr/sbin/ftpscrub
/var/run/proftpd.scoreboard AUTHORS ProFTPD is written and maintained by a number of people, full credits can be found on ATTRIBUTES See attributes(7) for descriptions of the following attributes: +-----
                                                                                                  --+ SEE ALSO inetd(8), ftp(1), f
Oracle Solaris can be found at code-downloads.html. This software was built from source available at . The original community source was downloaded from ftp://ftp.proftpd.org/dis- trib/source/proftpd.org/dis- trib/sourc
ftpshut - shut down all proftpd servers at a given time Synopsis ftpshut [-R][-l min][-d min] time [warning-message] Description ftpshut (8) System Manager's Manual ftpshut [-R][-l min][-d min] time [warning-message] Description ftpshut command
provides an automated shutdown procedure that a superuser can use to automagically disconnect current proftpd connect ions, and deny new connections. The command creates a control file as /etc/shutmsg to inform proftpd processes about an impending shutdown. OPTIONS time The time at which the ftp servers will be brought down. It may be
the word `now', indicating an immediate shutdown, or a future time in one of two formats: +number or HHMM. The first form brings the servers down in number minutes, while the second form indicates an exact time of day, using a 24-hour clock format. -R Instructs ftpshut to remove the /etc/shutmsg file, restoring proftpd to its normal service. If
this option is used, this will be the only operation performed by ftpshut -l min Specifies the number of minutes before shutdown that new ftp access will be disabled. If the -l option is not specifies the number of minutes before shutdown
that existing ftp connections will be disconnected. If the -d option is not specified, a default of 5 minutes (or immediately, if less than 5 minutes remains until shutdown) is used. warning-message Optionally provide a message which will be sent to new con- nections (if denied) and existing connections (when discon- nected). The message can contain
the following magic cook- ies, which will be replaced as follows before being sent to new or existing connections will be denied %d time current working directory (where applicable) %L local host name (or virtualhost name) %R remote host name
%T local time (format Thu Nov 15 17:12:42 1990) %U username given at login time CAVEATS Proftpd servers can only be shutdown wia ftpshut if a master daemon is running in standalone mode. Servers may be chroot(2)ed, and unable
to read the shutdown message control file. It is possible to set an absolute shutdown until the indicated time on the following day. FILES /usr/sbin/ftpshut /etc/shutmsg AUTHORS ProFTPD is written and maintained by a number of people, full credits can be found
                                                                                                                                                 --+ |ATTRIBUTE TYPE | ATTRIBUTE VALUE | +-----+
                                                                                                                                                                                                                                                    ---+ |Availability | service/network/ftp | +------------
inetd(8),ftp(1),proftpd(8),ftpwho(1),ftpcount(1) Full documentation on ProFTPD, including configuration and FAQs, is available at For help/support, try the ProFTPD mailing lists, detailed on Report bugs at NOTES Source code for open source software components in Oracle Solaris can be found at code-downloads.html. This software was built from
source available at . The original community source was downloaded from ftp://ftp.proftpd.org/dis- trib/source/proftpd.org/dis- trib/source/proftpd-1.3.6.tar.gz. Further information about this software can be found on the open source community website at . March 2003 ftpshut(8) Page 18 fuser - identify users of files and devices Synopsis /usr/sbin/fuser [-c | -d | -f] [-nu] [-k | -s
sig] files [[-][-c|-d|-f][-nu][-k|-s sig] files] ... Description The fuser utility displays the process is using the file as cIndicates that the process is using the file as required as follows. If the process is using the file as required as follows. If the process is using the file as required as follows. If the process is using the file as required as follows. If the process is using the file as required as follows.
directory e Indicates that the process is monitoring the file events. For more information, see the port_associate(3C) man page mIndicates that the process is using a file mapped with mmap(2). See mmap(2) for details. nIndicates that the process is using a file mapped with mmap(2).
an open file rIndicates that the process is using the file as its root directory tIndicates that the process is using the file as its controlling terminal For block special devices with mounted file systems, all processes using any file on that device are listed. For all types of files (text files, executables
directories, devices, and so forth), only the processes using that file are reported. For all types of devices, fuser also displayed in one of the following formats: [module name, dev path=path] [module name, dev=(major, minor)] [module name, d
(major,minor), dev_path=path] If more than one group of files are specified, the options may be respecified for each additional group of files. A lone dash cancels the options currently in force. The process IDs are printed as a single line on the standard output, separated by spaces. All other output, including the single terminating newline, is written
on standard error. Any user can run fuser, but the {PRIV_PROC_OWNER} privilege is required to send a signal to another user's process. Options The following options are supported: -cReports on files that are mount points for file systems, and any files within that mounted file system. -dReport device usage information for all minor nodes bound to
the same device node as the specified minor node. This option does not report file usage for files within a mounted file system. -fPrints a report for the named file, not for files within a mounted file system. -fPrints a report for the named file system.
s sig Sends a signal to each process. The sig option argument specifies one of the symbolic names defined in the header, or a decimal integer signal number. If sig is a symbolic name, it is recognized in a case-independent fashion, without the SIG prefix. No signals will be sent to kernel file consumers or file event monitors. For more information, see
the kill(2) and signal.h(3HEAD) man pages. -uDisplays the user login name in parentheses following the process ID. Example 2 Restricting Output when Reporting on the mount point and files within the mount point and files within the mount point and Files The following example 2 Restricting Output when Reporting on the Mount Point and Files The following the process ID. Example 2 Restricting Output when Reporting on the Mount Point and Files The following example 2 Restricting Output when Reporting on the Mount Point and Files The following example 2 Restricting Output when Reporting on the Mount Point and Files The following example 2 Restricting Output when Reporting on the Mount Point and Files The following example 2 Restricting Output when Reporting on the Mount Point and Files The following example 2 Restricting Output when Reporting on the Mount Point and Files The following example 2 Restricting Output when Reporting Output Wh
the Mount Point and Files The following example reports on the mount point and files within the mounted file system, but the output is restricted to processes that hold non-blocking Mandatory Lock The following command sends
SIGTERM to any processes that hold a non-blocking mandatory lock on file /export/foo/my file Environment Variables See environ(7) for descriptions of the following environment variables that affect the execution of fuser: LANG, LC_ALL, LC_CTYPE, LC_MESSAGES, and NLSPATH. Attributes See
attributes(7) for descriptions of the following attributes: Availability system/core-os Interface Stability Committed Standard See Also pfiles(1), ps(1), kill(2), mmap(2), port_associate(3C), signal.h(3HEAD), attributes(7), environ(7), privileges(7), standards(7), mount(8) Notes Because fuser works with a snapshot of the system image, it may
miss processes that begin using a file while fuser is running. Also, processes reported as using a file may have stopped using it while fuser was running. These factors should discourage the use of the -k option. Page 19 fwflash [-f file1, file2, file3,... | -
r file] [-y] [-d device path] Description The fwflash command writes a binary image file to supported flashable devices attached to a Solaris host. It also provides the ability to read firmware to a file if supported by the device can have significant impact on the stability of a system, only users with the
privilege All are allowed to execute this command. Users authorized to run fwflash can be granted the "Firmware Flash Update" Rights Profile. The first form of the command, above, provides information about devices. It lists all devices currently available on the system that are supported by fwflash for firmware upgrade. You can filter the list
operation, to display only specified classes of devices. The second form of the command provides the operations to read or write the firmware images to specific devices. Options The following options are supported: -c device_class An optional parameter, valid only when used with the -l option. This option causes the command to list only devices of a
specific class type. No other device classes are enumerated. Currently supported classes are IB, ETH, enclosure, disk, or ALL. If -c is not specific class. Use IB for InfiniBand, ETH for Ethernet, enclosure for SCSI enclosures, and disk for SCSI/SATA/SAS/FC disks. -d
dev path The dev path is absolute path is absolute path name of the device that the user wants to modify with the -f or -r must also be specified, then either -f or -r must also be specified, then either -f or -r must also be specified, then either -f or -r must also be specified.
fwflash will verify that each file is a valid firmware image for the specified device. If it is not, the command fails with an appropriate error message. Cards running secure firmware image for the specified and flashed to the device in the order given or
the command line. If any of the specified files cannot be successfully flashed, then an appropriate message is displayed. After a new firmware upgrade
and display information specific to each device or device class. For InfiniBand (IB) and Ethernet (ETH) devices, the list operation displays the guids (Globally Unique Identifier) and MAC addresses currently set for the device, as well as the current firmware revision installed. There are four separate guids on the device; two of them can be set with the
same value. Typically, there are two MAC addresses, one for each port on the device. Secure firmware cards will also show the firmware security attributes (see NOTES section below). For SCSI Enclosure Services (ses or sgen) devices, an identifying target-port worldwide name is displayed, if available. -r file Specify the path to a file to create when
reading the firmware from the device. The -f and -r options are mutually exclusive. Not all flashable devices support this operation. A message will be displayed if the selected device does not support this operation. Cards
running secure firmware do not support this operation (see NOTES section below). -y Valid only when a flash read (-r) or write (-f) operation and operate non-interactively. Note that there is no option that allows you to forcibly flash an incompatible firmware
image onto a device. Example 1 Entering Command Without Arguments The following command shows fwflash [-f file1, file2, file3,... | -r file] [-y] -d device path -l list flashable devices in this system -c
device_class limit search to a specific class eg IB for InfiniBand, ses for SCSI Enclosures -h print this usage message -f file1, file2, file3,... firmware image file list to flash -r file file to dump device path pathname of device path is specified, then one of -f or -r must also be
 specified If multiple firmware images are required to be flashed they must be listed together, separated by commas. The images will be flashed in the order specified. Example 2 Listing Devices Available to Flash The following command lists the devices available to be flashed. example # fwflash -l List of available devices: Device[0],
/devices/pci@0,0/pci8086,3595@2/pci8086,3595@2/pci8086,32a@0,2/\ pci15b3,5a46@c/pci15b3,5a46@c/pci15b3,5a44@0:devctl Class [IB] GUID: System Image - 0002c901081e33b1 Port 2 - 0002c901081e33b2 Firmware revision: 2.7.8100 Product : 375-3606-03 PSID : SUN0150000009 Description : Sun Falcon QDR Device[1]
\sqrt{1.0000} /devices/pci@0,0/pci8086,3597@4/pci15b3,6278@0:devctl Class [IB] GUID: System Image - 0002c9010a99e3b2 Firmware revision: 2.7.8100 Product: 375-3606-03 PSID: SUN0150000009 Description: Sun Falcon QDR Device[2],
CX556A - ConnectX-5 QSFP28 Security attributes: secure-fw signed Alternatively, for a SAS Expander presented as a SCSI Enclosure Services device, we might see output such as this: example# fwflash -l List of available devices: Device[0] /devices/pci@0/pci@2/scsi@0/ses@3,0:ses Class [sgen] Target port WWN: 500605b00002453d Vendor
SUN Product: 16Disk Backplane Firmware revision: 5021 Example 3 Flash Upgrading an IB HCA device. example # fwflash -f./version.3.2.0000 \ -d./devices/pci@0,0/pci8086,3597@4/pci15b3,6278@0:devctl About to update firmware on:
/devices/pci@0,0/pci8086,3597@4/pci15b3,6278@0:devctl Continue (Y/N): Y Updating . . . . . . . . . . . Done. New image will be active after the system is rebooted. Note that you are prompted before the upgrading proceeds and that it is mandatory that you reboot your host to activate the new firmware image. The following command adds the -y
option to the command. example # fwflash -y -f ./version.3.2.0000 \ -d /devices/pci@0,0/pci8086,3597@4/pci15b3,6278@0:devctl Updating . . . . . . . . . . Done. New image will be active after the system is rebooted. Example 4 Flash Upgrading an ETH Device The
following command flash upgrades an ETH device. example # fwflash -f\ fw-ConnectX5-rel-16_22_1002-MCX556A-EDAS_C14_Ax-FlexBoot-3.5.403.bin \ -d\ /devices/pci@0,0/pci8086,2f04@2/pci15b3,16@0:devctl Verify firmware image Current HCA firmware version: 16.21.2024 Security attributes: secure-fw signed Will be updated to firmware image Current HCA firmware version: 16.21.2024 Security attributes: secure-fw signed Will be updated to firmware image Current HCA firmware version: 16.21.2024 Security attributes: secure-fw signed Will be updated to firmware image Current HCA firmware version: 16.21.2024 Security attributes: secure-fw signed Will be updated to firmware image Current HCA firmware version: 16.21.2024 Security attributes: secure-fw signed Will be updated to firmware image Current HCA firmware version: 16.21.2024 Security attributes: secure-fw signed Will be updated to firmware image Current HCA firmware version: 16.21.2024 Security attributes: secure-fw signed Will be updated to firmware image Current HCA firmware version: 16.21.2024 Security attributes: secure-fw signed Will be updated to firmware image Current HCA firmware version: 16.21.2024 Security attributes: secure-fw signed Will be updated to firmware version image.
16.22.1002 Security attributes: secure-fw signed About to update firmware on /devices/pci@0,0/pci8086,2f04@2/pci15b3,16@0:devctl with file fw-ConnectX5-rel-16 22 1002-MCX556A-EDAS C14 Ax-FlexBoot-3.5.403.bin. Do you want to continue (Y/N): Y Updating firmware: this takes about 40 seconds, so please be patient. Updating firmware:
Success! fwflash: New firmware will be activated after you reboot Example 5 Reading Device Firmware to File The command shown below reads the device firmware to File The command uses the -y option so that read occurs without prompting. example # fwflash -y -r /firmware.bin \ -d /devices/pci@1d,700000/pci@1/pci15b3,5a44@0:devctl About
to read firmware on: /devices/pci@1d,700000/pci@1/pci15b3,5a44@0:devctl to filename: /firmware.bin Reading . . . Done, Example # fwflash -l fwflash: No flashable devices attached
with the ses driver in this system fwflash: No flashable devices attached with the seen driver in this system fwflash: No flashable devices attached with the hermon driver in this system fwflash: No flashable devices attached with the hermon driver in this system fwflash: No flashable devices attached with the seen driver in this system fwflash: No flashable devices attached with the seen driver in this system fwflash: No flashable devices attached with the seen driver in this system fwflash: No flashable devices attached with the seen driver in this system fwflash: No flashable devices attached with the seen driver in this system fwflash: No flashable devices attached with the seen driver in this system fwflash: No flashable devices attached with the seen driver in this system fwflash: No flashable devices attached with the seen driver in this system fwflash: No flashable devices attached with the seen driver in this system fwflash: No flashable devices attached with the seen driver in this system fwflash: No flashable devices attached with the seen driver in this system fwflash: No flashable devices attached with the seen driver in this system fwflash: No flashable devices attached with the seen driver in this system fwflash: No flashable devices attached with the seen driver in this system fwflash: No flashable devices attached with the seen driver in this system fwflash with the seen driver in this system fwflash.
currently-attached devices can be flashed. For the list of device types and drivers that are currently supported, please see the NOTES section below. Return Values The following attributes: Availability system/firmware-utilities
Interface Stability Committed See Also hermon(4D), mlxne(4D), ses(4D), attributes(7) The InfiniBand Trade Association website, SCSI Enclosure Services-2, SES2 Serial Attached SCSI-2, SAS2 NotesAs of version 1.1, fwflash supports only one type of flash part in
InfiniBand HCA devices. When an unsupported HCA device is encountered, the following message is issued: The fwflash command supports: InfiniBand Host Channel Adapters (IB HCAs) containing either the AMD or the Intel parallel flash parts. SCSI Enclosure Services devices such as SAS Expanders, attached with ses(4D) drivers. Some Oracle
OEM Mellanox adapters (e.g. ConnectX-5) use so-called "secure firmware" (SF). This feature is meant to restrict firmware usage to only officially approved versions. SF image files are digitally signed and verified when attempting to write the image to a card. If the signature cannot be verified, the writing (-f) operation is blocked, and an error
message will be printed. Once a card running SF is written with a new firmware image, the new image must be activated (via reboot), before the card can be written again with a new image. Cards supporting SF will show "Security attributes" with the list (-l) option. Production SF will have the "secure-fw" and "signed" attributes. Development SF will show "Security attributes" with the list (-l) option. Production SF will have the "secure-fw" and "signed" attributes. Development SF will show "Security attributes" with the list (-l) option.
also show the "dev" attribute. Debug SF will also have the "debug" attribute. Production SF cannot be written with Development SF use different keys. A card running Production SF do not support the read (-r) option to read firmware from the card. Page 20 fwtmp.
wtmpfix - manipulate connect accounting records Synopsis /usr/lib/acct/fwtmp [-ic] /usr/lib/acct/fwtmp fix [file]... Description fwtmp reads from the standard output, converting binary records of the type found in /var/adm/wtmpx to formatted ASCII records. The ASCII version is useful when it is necessary to edit bad
records. wtmpfix examines the standard input or named files in utmpx format, corrects the time/date corrections are not performed, accton(8) will fault when it encounters certain date-change
records. Each time the date is set, a pair of date change records are written to /var/adm/wtmpx. The first record is the old date denoted by the string "old time" placed in the line field and the flag OLD TIME placed in the line field and the flag OLD TIME placed in the type field of the utmpx structure. The second record specifies the new date and is denoted by the string new time placed in the line
field and the flag NEW TIME placed in the type field. wtmpfix uses these records to synchronize all time stamps in the file. In addition to correcting time/date stamps, wtmpfix will check the validity of the name field to ensure that it consists solely of alphanumeric characters or spaces. If it encounters a name that is considered invalid, it will change
the login name to INVALID and write a diagnostic to the standard error. In this way, wtmpfix reduces that input is in ASCII form, and output is to be written in binary form. Files /var/adm/wtmpx history of user access and administration information
Attributes See attributes (7) for descriptions of the following attributes: Availability system/accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accounting/legacy-accoun
help] [--fatal-warnings] [--timed-exit] [--version] Description gdm(8) System Manager's Manual gdm(8) NAME gdm - GDM (GNOME Display Manager, a program used for login session man- agement. GDM supports
system. GDM supports a number of configuration interfaces which are described in later sections of this manage. For each display that GDM is configured to manage, the gdm program will launch a slave daemon which does the work to actually manage the dis- play. The slave daemon will start the login greeter GUI program, the program that the
user interacts with. Refer to the "Login Greeter GUI" section below for more information about how the user interface works. If Virtual Terminals are supported on your system, you can start a flexible display via the "User Switcher" panel to make use of it. You can also use the gdmflexiserver(1)
command to start flexible displays from the command line. On Oracle Solaris, the GDM service is managed by the smf(7) service management facility under the service identifier svc:/applica-tion/graphical-login/gdm. On Oracle Solaris, it is recommended that you use the svcadm(8) utility to enable and disable the "gdm" service instead of killing the
daemon with a SIGTERM signal. GDM supports Oracle Solaris auditing. Refer to the "System Administra- tion Guide: Security Services" and the audit(8) manpage for more infor- mation. On Oracle Solaris, GDM also uses logindevperm(5) to ensure that device permissions are set properly for the user on login. OPTIONS The following options are
supported by gdm: --fatal-warnings Make all warnings fatal. Useful for debugging. --help Display detailed usage message. --timed-exit Exit after 30 seconds. Useful for debugging. --version Display the GDM version. ENVIRONMENT VARIABLES See environ(7) for descriptions of environment variables. When the following description refers to
"scripts", these are referring to the GDM Init, PostLogin, PreSession, and PostSession scripts. DESKTOP SESSION For any user session started by GDM, this environment variable is set to the ses- sion name the user has chosen in the login GUI, such as "gnome" to indicate that the /usr/share/xsession/gnome.desk- top session file was used to launch
the session. DISPLAY When running scripts and for any user session started by GDM, this environment variable is set to the home directory associated with the user. LANG For any user
 session started by GDM, this environment variable is set to the lan- guage choice selected when the user logged in. REMOTE HOST When running scripts, this environment variable is set to the hostname if the session is non-local (e.g. XDMCP). RUNNING UNDER GDM When running scripts, this environment variable is set to the hostname if the session is non-local (e.g. XDMCP).
identify when they are executed by the GDM process. SHELL When running scripts and for any user session started by GDM, this environment variable is set to the username associ- ated with the session.
USERNAME When running scripts and for any user session. XAUTHORITY When running scripts and for any user session started by GDM, this environment variable is set to the Xserver Xauthority file being used by the session. XDG SESSION COOKIE This
environment variable is provided by ConsoleKit, and this value is set for any user session started by GDM so that Con- soleKit can properly identify the ses- sion. EXTENDED DESCRIPTION Login Greeter GUI allows the user session should be started and ensures that the user authenticates before gain-
ing access to their user session. Authentication can be disabled if desired. GDM makes use of pam(3PAM) to manage how the user authentication is not desired, then GDM pro-vides two configuration options which can be used to bypass
it: "Auto- matic Login" and "Timed Login" and "Timed Login". These are not enabled by default, but can be turned on if desired. The Automatic Login feature will display the login greeter GUI for a number of
seconds specified in the GDM configuration. If no user logs in before the timeout, then GDM will automatic Login or Timed Login are secure,
and they should only be used on systems where the security provided by authentication is not needed. GDM normally uses a PAM stack named "gdm". When Automatic Login and Timed Login will not work properly if the "gdm-
autologin" PAM stack is not defined in your PAM configuration. The login greeter GUI provides two mechanisms for specifying which user is logging into the system. Either the "Face Browser" can be used, or GDM can prompt the user with the requests specified by the system PAM configuration. By default, this means entering both the username and
password by hand. The Face Browser is designed to work when PAM is configured to allow users to select their username, so it is not useful with certain PAM configurations (such as when the username is identified via a SmartCard or fingerprint). The Face Browser obviously exposes usernames to any- one with access to the machine, so users may
wish to disable it if this is considered a security issue. When the Face Browser is enabled, a list of users will appear in the login greeter GUI. An icon for each user is shown, and users can spec- ify what icon is associated with their user. If the user does not
have such an image file, a default icon is dis-played. Image files must be no larger than 64K in size, or they are ignored by GDM. The login greeter GUI can be configured to provide "Shutdown, restart, or suspend the system if desired. On Oracle Solaris, the but-tons will only be
available if the "solaris.system.shutdown" authoriza- tion name is specified for the "gdm" user in the /etc/user attr file. For example, the /etc/user attr file should include the following line to make these buttons available from the GDM login GUI screen. gdm:::type=normal;auths=solaris.system.shutdown While the login greeter GUI is displayed, a
panel is provided at the bottom of the screen which provides useful information, interfaces that allow the user to specify how their session should be started, and interfaces to help the user navigate the login screen. These include: o A clock, showing the date and time. o What type of session to run. o An alternative language to use. o An alternative
keyboard layout (if supported). o The ability to monitor the system battery). The login greeter GUI also allows the user to take a screenshot. If the user presses the keybinding associated with printing the screen, then the gdm-screenshot is run to take the
screenshot. Accessibility GDM supports accessibility icon on the panel to specify which assistive programs should be launched with the login GUI programs are run with a
dedicated user id and group id. By default "gdm" is used for both the user id and group is to make sure that the GDM user interfaces run as a user without unnecessary privileges, so that in the unlikely case that some- one finds a weakness in the GUI, they will not
gain access to a privi-leged account on the machine. Note that the GDM user and group do have some privileges beyond what a normal user has. This user authorization files and other private information. This means that someone who gains the GDM
user/group privileges can then connect to any running Xserver session. Do not, under any circumstances, make the GDM user/group that might be easy to get access to ensure that users are unable to access the
authorization files belonging to other users. XDMCP XDMCP (X Display Manager Control Protocol) displays the login screen and resulting session on a remote machine over the network interface. By default, XDMCP is disabled in GDM. However, GDM can be configured to enable XDMCP so that users can log into the system from remote hosts. By
default, GDM listens to UDP port 177, although this can be configured. GDM responds to QUERY and BROADCAST QUERY requests by sending a WILLING packet to the originator. GDM provides configuration options that make GDM more resistant to denial-of-service attacks on the XDMCP service. The default values should work for most systems,
but several protocol parameters, hand- shaking timeouts, and so on can be fine-tuned to make it more secure. It is not recommended that you modify the XDMCP configuration unless you know what you are doing. GDM grants access to the hosts specified in the GDM service section of your TCP Wrappers configuration file. Refer to the libwrap(3)
manpage for more information. GDM does not support remote display access con- trol on systems without TCP Wrapper support. GDM can also be configured to honor INDIRECT queries and for- wards subsequent reguests to the chosen manager. GDM also supports
an extension to the protocol which makes GDM forget the redirection once the user's connection succeeds. This extension is only supported if both daemons that implement XDMCP. GDM only supports the MIT-MAGIC-COOKIE-1 authentication system. Because of this,
the cookies are transmitted as clear text. Therefore, you should be careful about the network where you use this. That is, be careful about where your password as you log in, so a better XDMCP authentication would not help you much anyway. If snooping is
possible and undesirable, you should use ssh(1) for tunnel-ing an X connection, rather then using GDM's XDMCP. Think of XDMCP as a sort of graphical telnet, with the same security issues. GDM Configure multiseat please
refer to the console-kit-daemon(8) manpage. GDM also provides a number of configuration interfaces which allow the user to specify how GDM should operate. The configuration available for the GDM daemon and the GDM login greeter GUI are described below. GDM also provides a number of configuration interfaces to configuration available for the GDM daemon and the GDM login greeter GUI are described below.
are started which are described in the "GDM Login Scripts and Session Files" section of this manpage. The default system configuration for the GDM daemon is stored in the file /etc/gdm/gdm.schemas, and accessed by GDM via GConf. Users are not recommended to modify this file since it may be overwritten on upgrade. Instead users should
override these settings by specifying values in the /etc/qdm/custom.conf file, which is in standard INI for- mat. The settings below are in "group/key=default value type" format. The type can be string, integer, or boolean. To override the "xdmcp/Enable" true
The following keys are supported for configuring the GDM daemon: chooser/Multicast=false (boolean) If true and IPv6 is enabled, the chooser will send a multicast group. chooser/MulticastAddr=ff02::1 (string) This is the Link-local Multicast address.
daemon/TimedLoginEnable=false (boolean) If the user given in TimedLogin should be logged in after a number of seconds (set with TimedLoginDe-lay) of inactivity on the login screen. This is useful for public access terminals or perhaps even home use. If the user uses the key-board or browses the menus, the timeout will be reset to TimedLoginDe-lay)
lay or 30 seconds, whichever is higher. If the user does not enter a username but just hits the ENTER key while the login program is requesting the user wants to login immediately as the timed user. Note that no password will be asked for this user so you should be careful, although if using PAM it can be
configured to require password entry before allowing login. daemon/TimedLogin= (string) This is the user that should be logged in after a specified number of seconds of inactivity. If the value ends with a vertical bar | (the pipe symbol), then GDM will execute the pro- gram specified and use whatever value is returned on standard out from the
program as the user. The program is run with the DISPLAY environ- ment variable set so that it is possible to specify the user will be run to get the user value. daemon/TimedLoginDelay=30 (integer) Delay in seconds before the Timed-
Login user will be logged in. daemon/AutomaticLoginEnable=false (boolean) If true, the user given in AutomaticLoginEnable is true. If the value ends with
a vertical bar | (the pipe symbol), then GDM will execute the program is run with the DISPLAY environment variable set so that it is possible to specify the user in a per-dis- play fashion. For example if the value is "/usr/bin/getloginuser|", then the
program /usr/bin/getloginuser will be run to get the user value. daemon/User=gdm (string) The group id used to run the login GUI pro-grams are run. daemon/User=gdm (string) The group id used to run the login GUI pro-grams are run. daemon/User=gdm (string) The group id used to run the login GUI pro-grams are run. daemon/User=gdm (string) The group id used to run the login GUI pro-grams are run. daemon/User=gdm (string) The group id used to run the login GUI pro-grams are run. daemon/User=gdm (string) The group id used to run the login GUI pro-grams are run. daemon/User=gdm (string) The group id used to run the login GUI pro-grams are run. daemon/User=gdm (string) The group id used to run the login GUI pro-grams are run. daemon/User=gdm (string) The group id used to run the login GUI pro-grams are run. daemon/User=gdm (string) The group id used to run the login GUI pro-grams are run. daemon/User=gdm (string) The group id used to run the login GUI pro-grams are run. daemon/User=gdm (string) The group id used to run the login GUI pro-grams are run. daemon/User=gdm (string) The group id used to run the login GUI pro-grams are run. daemon/User=gdm (string) The group id used to run the login GUI pro-grams are run. daemon/User=gdm (string) The group id used to run the login GUI pro-grams are run. daemon/User=gdm (string) The group id used to run the login GUI pro-grams are run. daemon/User=gdm (string) The group id used to run the login GUI pro-grams are run. daemon/User=gdm (string) The group id used to run the login GUI pro-grams are run. daemon/User=gdm (string) The group id used to run the login GUI pro-grams are run. daemon/User=gdm (string) The group id used to run the login GUI pro-grams are run. daemon/User=gdm (string) The group id used to run the login GUI pro-grams are run. daemon/User=gdm (string) The group id used to run the login GUI pro-grams are 
either /var/log/messages or /var/adm/messages depending on your system. greeter/IncludeAll=false (boolean) If true, then the face browser will show all users on the local machine. If false, the face browser will only show users who have recently logged in. When this key is true, GDM will call fgetpwent() to get a list of local users on the system.
Anyusers with a user id less than 500 (or 100 if running on Oracle Solaris) are filtered out. The Face Browser also will display any users that have previously logged in on the system (for example NIS/LDAP users). It gets this list via calling the ck-his- tory(1) ConsoleKit interface. It will also filter out any users which do not have a valid shell (valid
shells are any shell that getuser- shell() returns - /sbin/nologin or /bin/false are considered invalid shells even if getusershell() returns them). If false, then GDM more simply only displays users that have previously logged in on the system (local or NIS/LDAP users) by calling the ck- history(1) ConsoleKit interface. greeter/Include= (string) Set to a list
of users to always include in the Face Browser. This value is set to a list of users separated by commas. By default, the value is empty, greeter/Exclude=bin,root,daemon,adm,lp,sync,shut-down,halt,mail,news,uucp,operator,nobody,nobody4,noaccess,post-greeter/Exclude=bin,root,daemon,adm,lp,sync,shut-down,halt,mail,news,uucp,operator,nobody,nobody4,noaccess,post-greeter/Exclude=bin,root,daemon,adm,lp,sync,shut-down,halt,mail,news,uucp,operator,nobody,nobody4,noaccess,post-greeter/Exclude=bin,root,daemon,adm,lp,sync,shut-down,halt,mail,news,uucp,operator,nobody,nobody4,noaccess,post-greeter/Exclude=bin,root,daemon,adm,lp,sync,shut-down,halt,mail,news,uucp,operator,nobody,nobody4,noaccess,post-greeter/Exclude=bin,root,daemon,adm,lp,sync,shut-down,halt,mail,news,uucp,operator,nobody,nobody4,noaccess,post-greeter/Exclude=bin,root,daemon,adm,lp,sync,shut-down,halt,mail,news,uucp,operator,nobody,nobody4,noaccess,post-greeter/Exclude=bin,root,daemon,adm,lp,sync,shut-down,halt,mail,news,uucp,operator,nobody4,noaccess,post-greeter/Exclude=bin,root,daemon,adm,lp,sync,shut-down,halt,mail,news,uucp,operator,nobody4,noaccess,post-greeter/Exclude=bin,root,daemon,adm,lp,sync,shut-down,halt,mail,news,uucp,operator,nobody4,noaccess,post-greeter/Exclude=bin,root,daemon,adm,lp,sync,shut-down,halt,mail,news,uucp,operator,nobody4,noaccess,post-greeter/Exclude=bin,root,daemon,adm,lp,sync,shut-down,halt,mail,news,uucp,operator,nobody4,noaccess,post-greeter/Exclude=bin,root,daemon,adm,lp,sync,shut-down,halt,mail,news,uucp,operator,nobody4,noaccess,post-greeter/Exclude=bin,root,daemon,adm,lp,sync,shut-down,halt,mail,news,uucp,operator,nobody4,noaccess,post-greeter/Exclude=bin,root,daemon,adm,lp,sync,shut-down,halt,mail,news,uucp,operator,nobody4,noaccess,post-greeter/Exclude=bin,root,daemon,adm,lp,sync,shut-down,halt,mail,news,uucp,operator,nobody4,noaccess,post-greeter/Exclude=bin,root,daemon,adm,lp,sync,shut-down,halt,mail,news,uucp,operator,nobody4,noaccess,post-greeter/Exclude=bin,root,daemon,adm,lp,sync,daemon,adm,lp,sync,daemon,adm,
Browser. This value is set to a list of users sep- arated by commas. Note that the setting in the custom.conf overrides the default value, so if you wish to add additional users to the list, then you need to set the value to the default value, so if you wish to add additional users appended to the list. greeter/ShowLast=false (boolean) If true, then the session, language and
layout dialogs in the login greeter GUI will show the option "Last" by default. The users default settings in their ~/.dmrc file will be used. If no settings exist in this file, then the system defaults will be used. If no settings exist in this file, then the system defaults will be used. If no settings exist in this file, then the system defaults will be used. If no settings exist in this file, then the system defaults will be used. If no settings exist in this file, then the system defaults will be used. If no settings exist in this file, then the system defaults will be used. If no settings exist in this file, then the system defaults will be used. If no settings exist in this file, then the system defaults will be used. If no settings exist in this file, then the system defaults will be used. If no settings exist in this file, then the system defaults will be used. If no settings exist in this file, then the system defaults will be used. If no settings exist in this file, then the system defaults will be used. If no settings exist in this file, then the system defaults will be used. If no settings exist in this file, then the system defaults will be used. If no settings exist in this file, then the system defaults will be used. If no settings exist in this file, then the system defaults will be used. If no settings exist in this file, then the system defaults will be used. If no settings exist in this file, then the system defaults will be used. If no settings exist in this file, then the system defaults will be used. If no settings exist in this file is the system defaults will be used. If no settings exist in this file is the system defaults will be used. If no settings exist in this file is the system defaults will be used. If no settings exist in this file is the system defaults will be used. If no settings exist in this file is the system defaults will be used. If no settings exist in this file is the system defaults will be used. If no settings exist in this file is the system defaults will be used. 
and instead accesses the user's configuration settings from their ~/.dmrc file after pam setcred(3PAM) is called. This fea- ture is useful in situations where the user's cached settings might become inconsistent across different servers.
security/DisallowTCP=false (boolean) If true, then always append "-nolisten tcp" to the Xserver command line when starting attached Xservers, thus disallowing TCP connections. Note that on Ora- cle Solaris, the options/tcp listen property of the x11-server service also
controls whether this option is appended to the Xserver command line. The GDM configuration value is set to "false" by default on Ora- cle Solaris to defer control of this feature to this x11-server prop- erty. Refer to the Xserver(1) manpage for more information, xdmcp/DisplaysPerHost=1 (integer) To prevent attackers from filling up the pending
queue, GDM will only allow one connection for each remote computer. If you want to provide display services to computers with more than one seat, you should increase this value. Note that the num- ber of attached DISPLAYS allowed is not limited. Only remote connection for each remote computers with more than one seat, you should increase this value. Note that the num- ber of attached DISPLAYS allowed is not limited. Only remote connection for each remote computers with more than one seat, you should increase this value.
(boolean) Setting this to true enables XDMCP support allowing remote displays/X terminals to be managed by GDM. If GDM is compiled to support it, access from remote displays can be controlled using the TCP Wrappers library. xdmcp/HonorIndirect=true (boolean) Enables XDMCP INDIRECT choosing for X-terminals which do not supply their own
display browser. xdmcp/MaxPending=4 (integer) To avoid denial of service attacks, GDM has fixed size gueue of pending connections. Only MaxPending displays which can be managed. It only lim- its the number of displays initiating a connection
simultaneously. xdmcp/MaxSessions=16 (integer) Determines the maximum number of remote display connections which will be managed simultaneously. I.e. the total number of remote displays that can use your host. xdmcp/MaxWait=30 (integer) When GDM is ready to manage a display an ACCEPT packet is sent to it containing a unique session id
which will be used in future XDMCP conversations. GDM will then place the session id in the pending queue waiting for the display to response is received within MaxWait seconds, GDM will declare the display dead and erase it from the pending queue free- inq up the slot for other displays
```

xdmcp/MaxWaitIndirect=30 (integer) The MaxWaitIndirect parameter deter- mines the maximum number of seconds between the time where a user chooses a host and the subsequent indirect guery where the user is con- nected to the host. When the timeout is exceeded, the information about the chosen host is forgotten and the indirect slot freed

up for other displays. The information may be forgotten earlier if there are more hosts trying to send indirect queries then MaxPendingIndirect. xdmcp/PingIntervalSeconds=15 (integer) Interval in which to ping the Xserver in seconds. If the Xserver does not respond before the next time we ping it, the connection is stopped and the session ended This is a combination of the XDM PingInterval and PingTimeout, but in sec- onds. xdmcp/Port=177 (integer) The UDP port number gdm should listen to for XDMCP requests. xdmcp/Willing=/etc/gdm/Willing (string) When the machine sends a WILL- ING packet back after a QUERY it sends a string that gives the current status of this server. The default message is the system ID, but it is possible to create a script that displays customized message. If this script does not exist or this key is empty the default message is sent. If this script that displays customized message is sent. If this script that displays customized message is sent. If this script does not exist or this key is empty the default message is sent. If this script that displays customized message is sent. If this script that displays customized message is sent. If this script does not exist or this key is empty the default message is sent. If this script that displays customized message is sent. If the script that displays customized message is sent. If the script that displays customized message i of service by flooding the machine with QUERY packets. The default system configuration for the GDM login greeter GUI is stored in the system GConf. Users are not recom- mended to modify this file file since it may be overwritten on upgrade. Instead users should override these settings by modifying the GConf configuration for the GDM user (the user specified in the Daemon/User configuration key above), normally the "gdm" user. Users can use the gconftool-2(1) or gconf-editor(1) programs to set these values, if desired. Refer to the EXAMPLES section of this manpage for more infor- mation about how to use these tools to change common settings. GDM will use the GCONF_DEFAULT_SOURCE_PATH environment variable to ensure that each display uses it's own GConf configuration. This way changes in GConf will only affect the greeter in a per-seat manner. The following keys are supported for configuring the GDM login greeter GUI and are in "GConf key=default value (gconf data type)" format: /apps/gdm/simple-greeter/banner message text is displayed. /apps/gdm/simple-greeter/banner message text greeter/disable restart buttons=false (boolean) Con- trols whether to show the restart buttons in the login window. /apps/gdm/simple-greeter/logo icon name=computer (string) Set to the themed icon name to use for the greeter logo. /apps/gdm/simple-greeter/wm use compiz=false (boolean) Controls whether compiz is used as the window manager instead of metacity. /desktop/gnome/interface/accessibility=true (boolean) Controls whether the Accessibility infrastructure will be started with the GDM GUI. This is needed for many accessibility technology programs to work. /desktop/gnome/applications/at/screen magnifier enabled=false (boolean) If set, then the assistive tools linked to this GConf key will be started with the GDM GUI program. By default this is a screen magnifier applications/at/screen keyboard enabled=false (boolean) If set, then the assistive tools linked to this GConf key will be started with the GDM GUI program. By default this is a screen magnifier applications/at/screen keyboard enabled=false (boolean) If set, then the assistive tools linked to this GConf key will be started with the GDM GUI program. By default this is a screen magnifier applications/at/screen keyboard enabled=false (boolean) If set, then the assistive tools linked to this GConf key will be started with the GDM GUI program. By default this is a screen magnifier applications/at/screen keyboard enabled=false (boolean) If set, then the assistive tools linked to this GConf key will be started with the GDM GUI program. By default this is a screen magnifier applications/at/screen keyboard enabled=false (boolean) If set, then the assistive tools linked to this GConf key will be started with the GDM GUI program. By default this is a screen magnifier applications/at/screen keyboard enabled=false (boolean) If set, then the assistive tools linked to this GConf key will be started with the GDM GUI program. to this GConf key will be started with the GDM GUI program. By default this is an on-screen key- board application. /desktop/gnome/applications a screen reader application. On Oracle Solaris GDM also supports the CONSOLE, PASSREQ, PATH, and SUPATH configuration options in /etc/default/login. Refer to the login(1) manpage for details. Logging GDM logs error and debug information to the system syslog file. Output from the Xservers started by GDM is stored in the GDM log direc- tory, /var/log/gdm. The Xserver output for each display is saved in a file display. Output from the GDM slave daemon is saved in a file display state display is the DISPLAY value for the associated display. Four older versions of each file display is the DISPLAY value for the associated display. are also stored, by appending 1 through 4 to the filename. These files are rotated, as new session output is redirected before the PreSession script is started. Note that if the session is a failsafe session, or if GDM cannot open this file for some reason, a fallback file is created named /tmp/xses- user.XXXXXX, where XXXXXXX are random characters. If you run a system with quotas set, consider using the PostSession script to delete the ~/.xsession-errors file, so that this log file is not stored unnecessarily. EXAMPLES Note that the user should change user to the "gdm" user before running the following gconftool-2(1) commands. For example, the su(8) command could be used. Configuration changes will only take effect if they apply to the "gdm" user. Example 1: To Enable Face Browser for all GDM login greeter GUI example% gconftool-2 --direct --config-source xml:readwrite:/var/lib/gdm/.gconf.mandatory -t bool -s /apps/gdm/simple-greeter/disable user list false Example 2: To Change the Background/picture filename /usr/share/backgrounds/solaris/Hexagons Dark.png Example 3: To Disable user list false Example 3: To Disable user list f Face Browser for StaticSeat1 GDM login greeter GUI example% gconftool-2 --direct --config-source xml:readwrite:/var/lib/gdm/StaticSeat1/.gconf -t bool -s /apps/gdm/simple-greeter/disable user list true EXIT STATUS The following files are used by this application: /usr/sbin/gdm Executable for GNOME Display Manager. GDM Login Scripts and Session Files The following GDM login integration interfaces are discussed below: o /etc/gdm/Init/Default o /etc/gdm/PostLogin/Default o /etc/gd /etc/gdm/PreSession/display o /etc/gdm/PostSession/Default o /etc/gdm/PostSession/Default o /etc/gdm/PostSession/Default o /etc/gdm/PostSession/Default o /etc/gdm/PostSession/Default user session) The Init, PostLogin, PreSession, and PostSession scripts all work as described below. For each type of script, the default Init script type. So the default Init script is /etc/gdm/Init/Default. A per-display script can be provided, and if it exists it will be run instead of the default script. Such scripts are stored in the same directory as the default script and have the same directory as the default script and have the same name as the Xserver DISPLAY value for that display. For example, if the /etc/gdm/Init/:0 script exists, it will be run for DISPLAY value for that display. For example, if the /etc/gdm/Init/:0 script exists, it will be run for DISPLAY value for that display. code if there was any failure that should cause the login session to be aborted. Also note that GDM will block until the scripts finish, so if any of these scripts finish, so if any of the scripts finish, so if any of the scripts finish, and the scripts finish, and the scripts finish, so if any of the scripts finish, and the scripts finish, and the scripts finish, This script is useful for starting programs that should be run while the login screen is showing, or for doing any special initializa- tion if required. After the user has been done, including before the pam_open_session(3PAM) call. This script is useful for doing any session initialization that needs to happen before the session starts. For example, you might setup the user's \$HOME directory if needed. After the user session initialization that needs to happen after the session has been initialized, GDM will run the PreSes- sion script is useful for doing any session initialization that needs to happen after the session has been initialized, GDM will run the PreSes- sion script is useful for doing any session initialization that needs to happen after the session has been initialized, GDM will run the PreSes- sion script is useful for doing any session initialization that needs to happen after the session has been initialized, GDM will run the PreSes- sion script is useful for doing any session initialization that needs to happen after the session has been initialized. initialized. It can be used for session management or accounting, for example. When a user terminates their session, GDM will run the PostSession script. Note that the PostSession script will be run even when the display fails to respond due to an I/O error or similar. Thus, there is no guarantee that X applications will work during script execution. All of the above scripts are also shared with other display managers, this allows you to identify when GDM is calling these scripts, so you can run specific code when GDM is used. The /usr/share/gdm/autostart/LoginWindow directory contains .desktop files in this directory will cause the associated program to automatically start with the login GUI greeter itself, the gnome-power-manager application, the gnome-settings-daemon, and the metacity window manager. These programs are needed for the greeter program to work. In addition, desktop files are provided for starting various AT programs if the associated acces- sibility configuration GConf keys are set. The administrator can customize .desktop files. For example, an xterm.desktop file can be useful when debugging the GDM login greeter. A .desktop file to launch xterm(1) would look as follows: [Desktop Entry] Name=Xterm Comment=Xterm Exec=/usr/X11/bin/xterm OnlyShowIn=GNOME; Terminal=false Type=Application X-GNOME-AutoRestart=true The user's defaul session and language choices are stored in the ~/.dmrc file. When a user logs in for the first time, this file is cre- ated with the user's initial choices. The user can change for subsequent logins. The session types which are available in the GDM login greeter GUI are specified by .desktop files are in standard INI format and the executable that will be run to start the session is specified by the "Exec" key in the file. Desktop files are normally stored in the /usr/share/xsessions directory. However, GDM will search for desktop files are normally stored in the session is specified by the "Exec" key in the file. order: /etc/X11/sessions/, /etc/dm/Sessions, /usr/share/gdm/BuiltInSessions, and /usr/share/gdm/Session script is run as the user, and it will run whatever session was specified by the Desktop session file the user selected to start. The /etc/gdm/Xsession script will source /etc/gdm/Xsession script will sc default daemon configuration. /etc/gdm/custom.conf GDM daemon configuration customization customization. /etc/gconf/schemas/gdm-simple-greeter.schemas GDM default/login On Oracle Solaris, GDM supports the CON- SOLE, PASSREQ, PATH, and SUPATH configur- ration options. Refer to the login(1) manpage for details. ~gdm/.gconf.mandatory The GDM user's GConf settings. ~gdm/.gconf.path This file specifies the GDM user's mandatory GConf settings. ~gdm/.gconf.path This file specifies the GDM user's mandatory GConf settings. ~gdm/.gconf.path This file specifies the GDM user's mandatory GConf settings. ~gdm/.gconf.path This file specifies the GDM user's mandatory GConf settings. ~gdm/.gconf.path This file specifies the GDM user's mandatory GConf settings. ~gdm/.gconf.path This file specifies the GDM user's mandatory GConf settings. ~gdm/.gconf.path This file specifies the GDM user's mandatory GConf settings. ~gdm/.gconf.path This file specifies the GDM user's mandatory GConf settings. ~gdm/.gconf.path This file specifies the GDM user's mandatory GConf settings. ~gdm/.gconf.path This file specifies the GDM user's mandatory GConf settings. ~gdm/.gconf.path This file specifies the GDM user's mandatory GConf settings. ~gdm/.gconf.path This file specifies the GDM user's mandatory GConf settings. ~gdm/.gconf.path This file specifies the GDM user's mandatory GConf settings. ~gdm/.gconf.path This file specifies the GDM user's mandatory GConf settings. ~gdm/.gconf.path This file specifies the GDM user's mandatory GConf settings. ~gdm/.gconf.path This file specifies the GDM user's mandatory GConf settings. ~gdm/.gconf settings. ~gdm/.gcon /var/log/gdm/display-greeter.log GDM login greeter GUI output for each display. ~/.xsession-errors Output from the user session. GDM Xauthority files /var/run/gdm Stores the Xserver authentication files for each managed session. Face Browser /usr/share/pixmaps/faces Global files for each display. ~/.xsession-errors Output from the user session. directory for face images. ~/.face User-defined icon to be used by GDM face browser. GDM user cache/gdm/username, so that they can be accessed on subsequent logins without accessing the user's \$HOME direc- tory before pam setcred(3PAM) is called. ATTRIBUTES See ----+ |ATTRIBUTE TYPE | ATTRIBUTE VALUE | +---------+ |Availability | system/display-manager/gdm | +-----+ -+ |Stability | Volatile | +-----+-----Latest version of the GNOME Desktop User Guide for your platform. gdmflexiserver(1), gdm-screenshot(1), gconfteol-2(1), gconft page written by Martin K. Petersen, George Lebl, and Brian Cameron. Copyright (c) 1998, 1999 by Martin K. Petersen. Copyright (c) 2001, 2003, 2004 by George Lebl. Copyright (c) 2003 by Red Hat, Inc. Copyright (c) 2006, 2020, Oracle and/or its affiliates. Source code for open source software components in Oracle Solaris can be found at codedownloads.html. This software was built from source available at . The original community source was downloaded from load.gnome.org/sources/gdm/41/gdm-41.3.tar.xz. Further information about this software can be found on the open source community website at . 22 Dec 2020 gdm(8) Page 22 genccode - generate C or platform specific assembly code from an ICU data file. Synopsis genccode [-h, -?, --help] [-a, --assembly name] [-d, --destdir destination] [-n, --name name] [-e, --entrypoint n gencode [-h, -?, --help] [-a, --assembly name] [-d, --destdir destination] [-n, --name name] [-d, --destdir destination] [-d, --destdir destdir destination] [-d, --destdir destination] [-d, --destdir destination] [-d, --destdi of the data filename, replac- ing dots by underscores, and adding a .c file extension. If the -a option is used, platform specific assembly files. Instead of C code. Most C compilers will accept both C and assembly files. Instead of writing a filename with a .c file extension, a file- name with a .c file extension. If the -a option is used, platform specific assembly files. Instead of writing a filename with a .c file extension, a file- name with a .c file extension. If the -a option is used, platform specific assembly files. Instead of writing a filename with a .c file extension, a file- name with a .c file extension. If the -a option is used, platform specific assembly files. Instead of writing a file- name with a .c file extension is used, platform specific assembly files. no filename it terminates gracefully. OPTIONS -h, -?, --help Print help about usage and exit. -a, --assembly to generate and to specify for this option. -d, --destdir destination Set the destination directory to destination. The default des- tination directory is the current directory. -n, --name name Set the data name to name is also used as the base name of the current version of the ICU release, and a single letter indicating the endianness of the data (the letter b indicated big endian data, and the letter l indicates little endian ones). -f, --filename name Normally, an ICU data file such as mydata.icu will be turned into mydata icu.o. However, if this parameter was set to "somedata.o, respectively. -e, --entrypoint name Set the data entry point (used for linking against the data in a shared library form) to name. The default entry point name is made of the data (set by the -t, --type option). VERSION 69.1 COPYRIGHT Copyright (C) 2000-2004 IBM, Inc. and others. ATTRIBUTES See attributes(7) for ---+ |ATTRIBUTE TYPE | ATTRIBUTE VALUE | +------+-----+---------+ |Availability | developer/icu | +------+----+ |Stability | Pass-through volatile | +-------+---------+---------------found at code-downloads.html. This software was built from source available at . The original community source was downloaded from org/icu/releases/download/release-69-1/icu4c-69 1-src.tgz. Further information about this software can be found on the open source community website at . ICU MANPAGE 11 March 2004 GENCCODE(8) Page 23 gencmn - mappable data file Synopsis gencmn [-h, -?, --help] [-v, --verbose] [-c, --copyright | -C, --comment comment] [-d, --destdir destination] [-n, --name name] [-t, --type fileext] [-s, --source] [-e, --entrypoint name] maxsize [listfilename] Description GENCMN(8) ICU 69.1 Manual GENCMN(8) NAME gencmn - generate an ICU memorymappable data file SYNOPSIS gencmn [-h, -?, --help] [-v, --comment of files and packages them as an ICU memory-mappable data file. The resulting data file can then be used directly by ICU. gencmn reads a list of files to be packaged from either the supplied listfilename file, or from its standard output. It packages all the files from the list that are not bigger than maxsize bytes, except if maxsize bytes, except if maxsize is 0, which indicates that there is no size limit on files. OPTIONS -h, -?, --help Print help ackaged from either the supplied listfilename file, or from its standard output. It packages all the files from the list that are not bigger than maxsize bytes, except if maxsize is 0, which indicates that there is no size limit on files. about usage and exit. -v, --verbose Display extra informative messages during execution. -c,--copyright notice in the resulting data instead of the ICU copyright notice. -d, --destdir destination Set the destination directory to destination. The default des- tination directory is specified by the environment variable ICU DATA. -n, --name name Set the data name to name is also used as the base name of the current version of the iCU release, and a single letter indicating the endianness of the data. This type is also used as the extension of the generated data file. The default type ie dat. -S, --source Write a C source file with the table of contents of the data. -e, --entrypoint name Set the data entry point (used for linking against the data in a shared library form) to name. The default entry point name is made of the data (set by the -t, --type option). ENVIRONMENT ICU_DATA Specifies the directory containing ICU data. Defaults to \${prefix}/share/icu/69.1/. Some tools in ICU depend on the presence of the trailing slash. It is thus important to make sure that it is present if ICU_DATA is set. VERSION 69.1 COPYRIGHT Copyright (C) 2000-2001 IBM, Inc. and others. ATTRIBUTES See attributes(7) for descriptions of the following attributes: +-------+ SEE ALSO decmn(8) NOTES Source code for open source software components in Oracle Solaris can be found at code-downloads.html. This software was ----+ |Availability | developer/icu | +------+-------+-------+ |Stability | Pass-through volatile | +---------built from source available at . The original community source was downloaded from org/icu/releases/download/release-69-1/icu4c-69 1-src.tgz. Further information about this software can be found on the open source community website at . ICU MANPAGE 5 November 2001 GENCMN(8) Page 24 gennorm2 - Builds binary data file with Unicode normalization data. Synopsis gennorm2 [-h, -?, --help] [-v, --version] [-v, --v SYNOPSIS gennorm2 [-h, -?, --help] [-v, --version] [-c, --copyright] [-v, --version] [usage and exit. -V, --version Print the version of gennorm2 and exit. -c, --copyright Include a copyright notice. -v, --verbose Display extra informative messages during execution. -u, --unicode Specify Unicode version number, such as 5.2.0. -s, --sourcedir source-directory. Specify the input directory. -s, --sourcedir source-directory Set the name of the output file. --fast optimize the .nrm file for fast normalization, which might increase its size (Writes fully decomposed regular mappings instead of delta mappings instead of delta mappings. You should measure the runtime speed to make sure that this is a good trade-off.) COPYRIGHT Copyright (C) 2009-2010 International Business Machines Corporation and others ATTRIBUTES See attributes(7) for descriptions of the following attributes: +------+ |ATTRIBUTE TYPE | ATTRIBUTE TYPE | ATTRIB components in Oracle Solaris can be found at code-downloads.html. This software was built from source available at . The original community source was downloaded from org/icu/releases/download/release-69-1/icu4c-69 1-src.tgz. Further information about this software can be found on the open source community website at . ICU MANPAGE 15 March 2010 GENNORM2(8) Page 25 gensprep - RFC3454.pl Synopsis gensprep [-h, -?, --help] [-v, --verbose] [-c, --copyright] [-s, --sourcedir source] [-d, --destdir destination] Description gensprep [-h, -?, --help] [-v, --verbose] [-d, --destdir destination] Description gensprep [-h, -?, --help] [-v, --verbose] [-d, --destdir destination] Description gensprep [-h, -?, --help] [-v, --verbose] [-d, --destdir destination] Description gensprep [-h, -?, --help] [-v, --verbose] [-d, --destdir destination] Description gensprep [-h, -?, --help] [-v, --verbose] [-d, --destdir destination] Description gensprep [-h, -?, --help] [-v, --verbose] [-v, --verbo [-v, --verbose] [-c, --copyright] [-s, --sourcedir source] [-d, --destdir destination] DESCRIPTION gensprep reads filtered RFC 3454 files and compiles their information into a binary form. The resulting file, .icu, can then be read directly by ICU, or used by pkgdata(8) for incorporation into a larger archive or library. The files read by gensprep are described in the FILES section. OPTIONS -h, -?, --help Print help about usage and exit. -v, --verbose Display extra informative messages during execution. -c, --copyright Include a copyright notice into the binary data. -s, --sourcedir source Set the source directory to source. The default source directory is specified by the environment variable ICU DATA. -d, -destdir destination Set the destination Set the destination directory to destination directory to destination Set the destination directory to destination Set the destination of the trailing slash. It is thus important to make sure that it is present if ICU DATA is set. FILES The following files are read by gensprep and are looked for in the source /misc for rfc3454 **.txt files and in source /misc for rfc3 code points that are commonly mapped to nothing.... rfc3454 B 2.txt Contains the list of code points when Normalization form NFKC is specified.... rfc3454 C X.txt Contains the list of code points whose normalization has ----+ |Availability | developer/icu | +------+ SEE ALSO pkgdata(8) NOTES Source code for open source software components in Oracle Solaris can be found at code-downloads.html. This software was built from source available at . The original community source was downloaded from org/icu/releases/download/release-69-1/icu4c-69 1-src.tgz. Further information about this software can be found on the open source community website at . ICU MANPAGE 18 March 2003 gensprep(8) Page 26 getdevpolicy outputs the device policy in effect to standard output. With arguments, each argument is treated as a pathname to a device and the device policy in effect for that specific device is printed preceded by the supplied pathname. Usage The device policy and saccess restrictions over and above the file permissions. Exit Status The following exit values are returned: 0Successful completion non-zeroAn error occurred. Attributes See attributes(7), for descriptions of the following attributes: Availabilitysystem/device-administration Interface StabilitySee below The invocation is evolving. The output is unstable. See Also devfs(4FS), attributes(7), privileges(7), add drv(8), rem drv(8), update drv(8) Get a curated assortment of Linux tips, tutorials and memes directly in your inbox. Over 18,000 Linux users enjoy it twice a month. Share — copy and redistribute the material for any purpose, even commercially. The licensor cannot revoke these freedoms as long as you follow the license terms. Attribution — You must give appropriate credit, provide a link to the license, and indicate if changes were made. You must distribute your contributions under the same license as the original. No additional restrictions — You may not apply legal terms or technological measures that legally restrict others from doing anything the license permits. You do not have to comply with the license permits. exception or limitation . No warranties are given. The license may not give you all of the permissions necessary for your intended use. For example, other rights such as publicity, privacy, or moral rights may limit how you use the material. Skip to Main Content Solaris system administration To check and interactively repair filesystem errors on the device c0t0d0s1, run the following command as root: fsck /dev/rdsk/c0t0d0s1 Be careful when specifying the path to the device. There are two links to the same physical device which is appropriate for low-level operations such as fsck and newfs. The dsk represents a cooked filesystem that is appropriate for mounting and other high-level operations. System Administration Guide: Devices and File Systems You might need to interactively check file systems in the following instances: When they cannot be mounted When they develop inconsistencies while in use When an in-use file system develops inconsistencies, error messages might be displayed in the console window or the system messages file, /var/adm/messages file, /var/adm/messages file, lor, the system messages file, /var/adm/messages file, or, the system messages file, lor, the syst hostname is the system reporting the error. Before using the fsck command, you might want to refer to these references for information on resolving fsck error messages: Keep the following points in mind when running the fsck command, you might want to refer to these references for information on resolving fsck error messages: Keep the following points in mind when running the fsck command, you might want to refer to these references for information on resolving file systems. changes waiting to be flushed to disk or file system changes that occur during the fsck checking process can be interpreted as file system must be inactive when you use fsck to repair that file system. File system changes waiting to be flushed to disk or file system. changes that occur during the fsck repairing process might cause the file system to become corrupted. Or, they might cause the system to become corrupted. Or, they might cause the system to become corrupted. Or, they might cause the system to become corrupted. Or, they might cause the file system to become corrupted. Or, they might cause the system to become corrupted. Or, they might cause the system to become corrupted. Or, they might cause the system to become corrupted. Or, they might cause the system to become corrupted. Or, they might cause the system to become corrupted. Or, they might cause the system to become corrupted. Or, they might cause the system to become corrupted. Or, they might cause the system to become corrupted. Or, they might cause the system to become corrupted. Or, they might cause the system to become corrupted. Or, they might cause the system to become corrupted. Or, they might cause the system to be come corrupted. Or, they might cause the system to be come corrupted. Or, they might cause the system to be come corrupted. Or, they might cause the system to be come corrupted. Or, they might cause the system to be come corrupted. Or, they might cause the system to be come corrupted. Or, they might cause the system to be come corrupted. Or, they might cause the system to be come corrupted. Or, they might cause the system to be come corrupted. Or, they might cause the system to be come corrupted. Or, they might cause the system to be come corrupted. Or the system to be come corrupted. systems because they must be mounted to run fsck. If you need to repair the root (/), /usr, and /var file systems, see How to Check the root (/), /usr, or /var File Systems From an Alternate Boot Device. How to Check the root (/), /usr, or /var File Systems From an Alternate Boot Device For new information about fsck in the Solaris 10 6/06 release, see Enhancements to UFS File Systems From an Alternate Boot Device. How to Check the root (/), /usr, or /var File Systems From an Alternate Boot Device For new information about fsck in the Solaris 10 6/06 release, see Enhancements to UFS File Systems From an Alternate Boot Device. WAS MODIFIED ***** However, it doesn't harm the file system to rerun fsck after this message is just information on restoring a bad superblock, see How to Restore a Bad Superblock (Solaris 10 6/06 Release) or How to Restore a Bad Superblock (Solaris 8, 9, and 10 Releases). Become superuser or assume an equivalent role. For systems with mirrored root (/) file systems only: Detach the root (/) mirror before booting from the alternate device, or you risk corrupting the file system. For information on detaching the root (/) mirror, see Working With Submirrors in Solaris Volume Manager Administration Guide. Identify the device, such as /dev/dsk/c0t0d0s0, of the root (/), /usr, or /var file system that needs to be checked. You'll need to supply this device mame when booted from an alternate device. Identifying this device when you are already booted from the alternate device is more difficult. Boot the system with the root (/), /usr, or /var file system that needs to be checked from an alternate device, such as a local Solaris DVD or the network, in single-user mode. Doing so ensures that there is no activity on these file systems. For example: # init 0 ok boot net -s . . . # Check the device that contains the root (/), /usr, or /var file system as identified in Step 3. If the hardware for the file system to be checked or repaired has changed, the device for the file system. In this example, the root (/) file system to be checked is /dev/dsk/c0t0d0s0. # fsck -n /dev/rdsk/c0t0d0s0 ** Adev/rdsk/c0t0d0s0 ** Adev/rdsk/c0t0d while you interactively check one or more UFS file System Inconsistencies (Tasks), in System Administration Guide: Advanced determine if any files exist in the lost+found directory. Individual files and the file command to match phrases within individual files and the file command to identify file types. Eventually remove unidentifiable files or directories left in the lost+found directory so that it doesn't fill up unnecessarily. Bring the systems only: Reattach the root (/) mirror. How to Check Other File Systems (Not root (/), /usr, or /var) For new information about fsck in the Solaris 10 6/06 release, see Enhancements to UFS File System Utilities (fsck, mkfs, and newfs). There is no need to rerun fsck if you see the following message: ***** FILE SYSTEM WAS MODIFIED ***** However, it doesn't harm the file system to rerun fsck after this message is just informational about fsck's corrective actions. This procedure assumes that the file system to be checked is unmounted. For information on restoring a bad superblock (Solaris 8, 9, and 10 Releases). Become superuser or assume an equivalent role. Unmount the local file system to ensure that there is no activity on the file system. Specify the mount point directory or /dev/dsk/device-name as arguments to the fsck command. Any inconsistency messages are displayed. For example: # umount /export/home # fsck /dev/rdsk/c0t0d0s7 ** Last Mounted on /export/home . . . Correct any reported fsck errors. For information on how to respond to the error message prompts while vou interactively check one or more UFS file System Administration. If fsck cannot repair all of the problems after running it, see Fixing a UFS File System That the fsck Command Cannot Repair. Mount the repaired file system to determine if there are any files in the lost+found directory. Individual files put in the lost+found directory by the fsck command are renamed with their inode numbers. Rename and move any files put in the lost+found directory. If possible, rename the files and move them where they belong. Try to use the grep command to match phrases within individual files and the file command to identify file types. Eventually, remove unidentifiable files or directories left in the lost+found directory so that it doesn't fill up unnecessarily. Example 21-1 Interactively Checking Non-root (/) or Non-/usr File SystemsThe following example shows how to check the /dev/rdsk/c0t0d0s6 file system and correct the incorrect block count. This example assumes that the file system is unmounted. # fsck /dev/rdsk/c0t0d0s6 ** Phase 1 - Check Block and Sizes INCORRECT BLOCK COUNT I=2529 (6 should be 2) CORRECT? v ** Phase 2 - Check Pathnames ** Phase 3 - Check Connectivity ** Phase 4 - Check Reference Counts ** Phase 5 -Cylinder Groups 929 files, 8928 used, 2851 free (75 frags, 347 blocks, 0.6% fragmentation) ***** FILE SYSTEM WAS MODIFIED ***** # Preening UFS file systems and automatically fixes the problems that normally result from an unexpected system shutdown. This command exits immediately if it encounters a problem that requires operator intervention. This command also permits parallel checking of file systems. You can run the fsck command does not look at the clean flag and does a full check. These actions are a subset of the actions that the fisck command takes when it runs interactively. How to Preen a UFS file system is unmounted or inactive. Become superuser or assume an equivalent role. Unmount the UFS file system with the preen option. # fisck -o p /dev/rdsk/device-name You can preen individual file systems by using /mount-point or /dev/rdsk/device-name as arguments to the fsck command. Example 21-2 Preening a UFS File System That the fsck Command Cannot Repair The fsck command operates in several passes, and a problem corrected in a later pass can expose other problems that are only detected by earlier passes. Therefore, it is sometimes necessary to run fsck until it no longer reports any problems. Doing so ensures that all errors have been found and repaired. Pay attention to the information displayed by the fsck command. This information might help you fix the problem. For example, the messages might point to a damaged directory, you might find that the fsck command runs cleanly. If the fsck command still cannot repair the file system, try to use the fc commands to figure out and fix what is wrong. For information about how to use these commands, see the following references: fsdb(1M) ff(1M) clri(1M) ncheck(1M) Ultimately, you might need to re-create the file system and restoring UFS Files and File Systems (Tasks). If you cannot fully repair a file system but you can mount it read-only, try using the cp, tar, or cpio commands to retrieve all or part of the data from the file system. If hardware disk errors are causing the problem, you might need to reformat and repartition the disk again before re-creating and restoring file systems. Check that the device cables and connectors are functional before replacing the disk device. Hardware errors usually display the same error again and again across different commands. The format command tries to work around bad blocks on the disk. However, if the disk is too severely damaged, the problems might persist, even after reformation about installing a new disk, see Chapter 12, SPARC: Adding a Disk (Tasks) or Chapter 13, x86: Adding a Disk (Tasks). © 2010, Oracle Corporation and/or its affiliates 0 ratings0% found this document useful (0 votes)128 views1 pageThe document discusses the fsck process in Solaris and provides tips for fixing common fsck errors. It should not be run on a mounted filesystem as it may produce errors. For the root filesy...AI-enhanced title and descriptionSaveSave Fsck Process For Later0%0% found this document useful (0 votes)128 views1 pageThe document useful, undefined0 ratings0% found this document useful (0 votes)128 views1 pageThe document useful (0 votes)12 mounted filesystem as it may produce errors. For the root filesystem, one should boot from the installation CD and fsck the hard disk from there.0 ratings0% found this document useful (0 votes)128 views1 pageThe document discusses the fsck process in Solaris and provides tips for fixing common fsck errors. It should not be run on a mounted filesystem as it may produce errors. For the root filesy...AI-enhanced title and description Last updated on JUNE 26, 2025Applies to: Solaris Operating System - Version 8 and laterAll PlatformsGoal This document describes all about the fsck command, when it needs to be run, how to run it, what are the detail processes that run in different phases, and what to do after running fsck. Solution In this Document The fsck utility and what are its functions 2. When should be the fsck needs to be run? 4. The UFS components that are checked for consistency 5. Checking UFS file systems Phase 1: Check Blocks and Sizes Phase 2: Check Connectivity Phase 4: Check Reference Counts Phase 5: My Oracle Support provides customers with access to over a million knowledge articles and a vibrant support community of peers and Oracle experts. Oracle offers a comprehensive and fully integrated stack of cloud applications and Platform services. For more information about Oracle (NYSE:ORCL), visit oracle.com. • Oracle | Contact and Chat | Support | Communities | Connect with us | | | Legal Notices | Terms of Use In Linux, using heavy hardware components can be checked and recovered. Specifically, on Ubuntu and Debian systems, finding out the hard-disk bad sectors is easy. Once your hard disk or drive gets some bad sectors or gets corrupted, it gets spread day by day. On Ubuntu and other Debian Linux machines, you can use a few tools or commands to find out the file system errors and repair the errors. Not fixing errors or bad sectors might make your system boot slower and can also affect initialization. Repairing file system errors means we need to locate in which sector there are issues, and then we need to investigate what type of errors are. If the file system errors are repairable, then we will proceed with a few tools and commands on our Debian system. One of the best tools for repairing file system errors is fsck for Linux. In this post, we will see how to repair file system errors in Ubuntu and other Debian distributions. In Ubuntu, you can use the fsck command in the command-line shell that can check the file system consistency. This tool comes pre-installed with the Debian distribution. Please execute the following fdisk command first to get an overall idea about your file system on the Debian distribution. Please execute the following fdisk command first to get an overall idea about your file system on the Debian distribution. you cannot repair or execute operations to repair file system errors in Debian and other distributions as well. But no worries about repairing and fixing; you can again mount the file system where it was. If you do not run the FSCk operations without mounting the file system you want to repair, it will show you an error. sudo fsck /dev/sdb \$ sudo umount /dev/sdb3 You can now run the fsck command on the terminal shell to repair file system errors. fsck -p -y sudo fsck -p /dev/sdb3 The above process might take a while to complete. After finishing, please remount the file system errors. fsck -p /dev/sdb3 The above process might take a while to complete. After finishing, please remount the file system errors. following command to check which user is currently executing the fsck command useful for you and your system every time you boot the system. In Debian, the below-mentioned command will allow you to check the errors of the file system and repair them when you boot the PC, as you can see that the command will execute a force fsck command on boot. \$ sudo touch /forcefsck \$ sudo touch /for every time on the boot is too much, you can set it after every three system reboots. This will also help you to understand the situation of how bad the errors are in your Debian system. \$ sudo tune2fs -c 3 /dev/sdb3 For getting more help and syntaxes about the FSCK tool, you can always go through the command manual. \$ man fsck This method will

guide you to do a manual checkup of the file system on your Debian system to find out the errors and repair them. In this method, we will originally run the fsck command in recovery mode. Pressing the Shift button will help you to go into recovery mode. Once you are in recovery mode, select the fsck tool and press OK from the keyboard. Then it will ask you to set the mount point in read/write mode. Please complete this section to go to the fsck repairing mode. When you set the mount point, it will automatically run the fsck command on the system and repair file system errors in your Debian system. After you finish the process, you can now reboot your system and start using the system check while installing it. Many users may cancel the automatic file system checking by pressing Ctrl + C, but letting this procedure happen would be good before installing the OS. However, in the entire post, we have seen a few methods on how to repair file system check useful and informative. You can also write down your opinions regarding this post in the

xoriximobogi

comment section.

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