

Ultra Enterprise 10000 SSP 3.1 Reference Manual

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Part No: 805-3362-10
Revision A, December 1997

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NAME	Intro – Enterprise 10000 SSP administration
DESCRIPTION	This section describes commands, scripts, and programs executed in the Enterprise 10000 SSP environment.
autoconfig(1M)	scantool/interconnect auto config
board_id(1M)	read or write board ID values
bringup(1M)	configure and boot the domain
cb_prom(1M)	upgrade PROM
cb_reset(1M)	reset and reboot hung control board
cbs(1M)	control board server
check_host(1M)	determine whether the domain is up
domain_create(1M)	create new domain or recreate old one
domain_history(1M)	display domain history
domain_link(1M)	link domains to form or expand an Inter-Domain Network
domain_remove(1M)	remove an existing domain
domain_rename(1M)	rename an existing domain
domain_status(1M)	display domain status
domain_switch(1M)	change domain name in SUNW_HOSTNAME
domain_unlink(1M)	unlink domain(s) from an Inter-Domain Network (IDN)
edd(1M)	event detector daemon
edd_cmd(1M)	send a command to edd(1M)
fad(1M)	file access daemon
fan(1M)	display or control fan power and speed
hostinfo(1M)	display system information
hostint(1M)	interrupt processor, dump kernel core
hostreset(1M)	reset a hung domain
hostview(1M)	system monitor GUI
hpost(1M)	control and sequence POST through JTAG
machine_server(1M)	multi-purpose server
netcon(1M)	network console
netcon_server(1M)	network console server daemon
netcontool(1M)	network console tool
obp_helper(1M)	download OpenBoot to system memory
power(1M)	control power

redx(1M)	remote emulation debugger
sigbcmd(1M)	send commands from SSP to domain
snmpd(1M)	system SNMP proxy agent
ssp_config(1M)	configure SSP control boards
ssp_startup(1M)	invoke SSP daemons
ssp_unconfig(1M)	deconfigure the SSP
straps(1M)	SNMP trap sink server
sys_clock(1M)	display/change/set system clock frequencies
sys_id(1M)	display or change machine ID in SSP IDPROM
sys_reset(1M)	reset the domain
thermalcal(1M)	read or write thermistor calibration
thermalcal_config(1M)	create SSP thermistor calibration data file

NAME	autoconfig – scantool/interconnect auto config
SYNOPSIS	autoconfig [<i>board_name</i>]
DESCRIPTION	<p>CAUTION: Only authorized service providers should execute this command.</p> <p>autoconfig checks, in turn, the chip revisions of all configured system boards and the two centerplane halves in the Enterprise 10000 system. It then looks at the file SSSPVAR/data/Ultra-Enterprise-10000/common/board/sysboard/chip.ids for system boards, or SSSPVAR/data/Ultra-Enterprise-10000/common/board/centerplane/chip.ids for centerplane halves, to determine the signature for the selected board. autoconfig then looks at the file board.sigs in the same directory to determine if and how the selected system board or centerplane half should be updated in the Scantool database.</p> <p>WARNING: Do not run this command on system boards that are running the operating system, or on the centerplane if any domain is running the operating system.</p> <p>autoconfig executes the following steps:</p> <p>Step 1 Reads the chip IDs from all rings on the selected board to determine the ID value and the number of chips on a ring.</p> <p>Step 2 Determines that all chip IDs are valid and that the module type for variable-length rings is recognized.</p> <p>Step 3 Builds ring signatures for each ring on the selected board.</p> <p>Step 4 Determines from the board.sigs file which rings need updating in the Scantool database, and adds new ring signatures to the board.sigs file.</p> <p>Step 5 Selects the correct ring templates for all variable-length rings that need updating in the Scantool database.</p> <p>Step 6 Updates the Scantool database if necessary by creating a new revision for the board. autoconfig then adds new revision signature to the board.sigs file.</p> <p>Step 7 Updates SSSPVAR/data/Ultra-Enterprise-10000/platform_name.config with the new revision for the board.</p> <p>If autoconfig detects an error on a ring, it leaves the ring unchanged and continues. If it detects errors when accessing the chip.ids or board.sigs files, or in attempting to edit the Scantool database, autoconfig restores the files for the selected board, then continues.</p> <p>On completion autoconfig prompts you to reboot the SSP to start the new Scantool database. Do this while logged in as user <code>ssp</code> so that the shell environment variables are set correctly.</p>
OPTION	<i>board_name</i> Configure the specified board. Valid board names are sysboard <i>n</i> , where <i>n</i> is an integer 0 to 15, inclusive; or centerplane <i>n</i> , where <i>n</i> is either 0 or 1. Use this option only when a system board is moved from one slot to another, a new

system board is added to the system, or the centerplane is replaced.

FILES

SSSPVAR/data/Ultra-Enterprise-10000/common/board/sysboard/chip.ids

Contains the IDs for all the chips on a system board.

SSSPVAR/data/Ultra-Enterprise-10000/common/board/centerplane/chip.ids

Contains the IDs for all the chips on a centerplane.

SSSPVAR/data/Ultra-Enterprise-10000/common/board/sysboard/board.sigs

Contains all the ring signatures and board revision signatures built so far for the system boards.

SSSPVAR/data/Ultra-Enterprise-10000/common/board/centerplane/board.sigs

Contains all the ring signatures and board revision signatures built so far for the centerplane.

SSSPVAR/data/Ultra-Enterprise-10000/\$\$UNW_HOSTNAME.config

Contains the current revision given to each system board and centerplane.

SSSPVAR/data/Ultra-Enterprise-10000/common/board/sysboard/revn/ringname.chips

revn is a copy of the *rev1* directory. **autoconfig** edits the chips files in this copied directory as necessary.

SSSPVAR/data/Ultra-Enterprise-10000/common/board/sysboard/revn/template.chips

revn is a copy of the *rev1* directory. Variable-length rings require a template containing the correct number of chips, which can be copied over the *ringname.chips* file.

SSSPVAR/data/Ultra-Enterprise-10000/common/board/centerplane/rev?/ringname.chips

revn is a copy of the *rev1* directory. **autoconfig** edits the *ringname.chips* files for each effected ring.

NAME	board_id – read or write board ID values
SYNOPSIS	board_id [-r] -b <i>board_type</i> -n <i>board_number</i> board_id -w -b <i>board_type</i> -n <i>board_number</i> -p <i>part_number</i> -s <i>serial_number</i>
DESCRIPTION	Caution: This command is for use by Sun Manufacturing personnel only. board_id enables the Sun Microsystems engineer to display (read) or assign (write) board ID values in the EEPROMs on the system board, centerplane, centerplane support board, control board, memory module, or I/O module. If neither -r nor -w is specified, -r is the default.
OPTIONS	-r (Read) Display information about the specified board. -w (Write) Assign the specified part number and serial number to the specified board. -b <i>board_type</i> Read or write to the specified board type, where <i>board_type</i> is one of the following: sb System board cp Centerplane cb Control board csb Centerplane support board mem Memory module io I/O module -n <i>board_number</i> Read or write to the specified board number, where <i>board_number</i> is one of the following, as determined by the -b option: A system board number, 0 to 15 A centerplane half, 0 or 1 A control board, 0 or 1 A centerplane support board, 0 or 1 A memory module, 0 to 15 An I/O module, 0 to 15 -p <i>part_number</i> Assign the specified part number to the board, where <i>part_number</i> is expressed in the form <i>ccc-aaaa-ss-rr</i> , and where: <i>ccc</i> A 3-digit numeric category code. Currently, this code is 612 <i>aaaa</i> A 4-digit numeric base part number (assembly number) <i>ss</i> A 2-digit numeric part number suffix <i>rr</i> A 2-digit numeric revision

-s *serial_number*

Assign the specified serial number to the board, where *serial_number* is a string of three to 12 printable, non-space characters.

EXAMPLES

board_id -b sb -n 1

Display information about Board 1 on the system board.

board_id -w -b sb -n 1 -s 37KR59 -p 501-2341-12-01

Assign part number 501-2341-12-01 and serial number 37KR59 to Board 1 on the system board.

board_id -b cp -n 1 -s 37KR59 -p 501-2341-12-01

Display information about Board 1 on the centerplane. Since neither **-r** nor **-w** are specified, **board_id** assumes **-r** (the default). And **-r** ignores both **-s** and **-p**.

NAME	bringup – configure and boot the domain
SYNOPSIS	bringup [-f] [-F] [-p <i>proc</i>] [-Q <i>boot_proc</i>] [-gvCL] [-A {on off}] [-l <i>level</i>] [-D {on off}] [-X <i>blacklist_file_pathname</i>] [<i>boot_args</i>]
DESCRIPTION	<p>bringup executes the following steps to boot the domain specified in the SUNW_HOSTNAME environment variable. If any step fails, bringup displays an error message and aborts.</p> <ol style="list-style-type: none"> 1. Executes the power(1M) command to check whether the domain is powered on. If so, bringup proceeds; if not, it displays a message instructing the user to turn on power to the domain, then aborts. Note that if -f is used, bringup does not execute the power(1M) command. 2. Executes check_host(1M) to determine whether the domain is already up. If not, bringup boots the domain. If the domain is already up, bringup displays a message to that effect and asks if it should continue. Type n and it aborts; type y and it asks if you are executing bringup because of a hung domain. Your response to this question is recorded for problem-tracking purposes only; in either case, bringup boots the domain. 3. Checks whether any other domains are up, or being brought up, to determine whether it should execute hpost(1M) with or without the -C (configure centerplane) option in the next step. If another domain is being brought up and is configuring the centerplane, this instance of bringup waits until that domain has finished configuring the centerplane, then proceeds. If no other domains are up or being brought up, bringup displays a message informing you that it intends to configure the centerplane, and asks you whether it should proceed. (If you specified -f on the command line, bringup continues without this message.) <ul style="list-style-type: none"> • If you type y, bringup configures the centerplane and continues. If the centerplane is already configured – for example, due to an earlier domain that no longer exists – it is reconfigured. No harm is done, but your bringup may take a little longer. • If you type n and the centerplane is already configured, bringup continues without reconfiguring the centerplane. • If you type n and the centerplane is not already configured, hpost(1M) most likely will fail. <p>Note: If no domains are up and you do not know whether the centerplane is configured, the safest response is y.</p> <p>At this point bringup determines whether the domain was created with Solaris 2.6 or later. If so, it proceeds to the next step; if not, it proceeds to Step 5.</p>

4. Executes **domain_unlink**(1M) on the respective domain to verify that it is not a member of an IDN. **bringup** displays the following message during this period, which can take several seconds depending on the size of the domain's respective IDN and the state of those domain members:

```
Checking domain IDN configuration...
```

When this operation is completed, **bringup** displays the word `done`.

If an error occurs during the IDN operation, **bringup** displays `error` along with the captured output of the **domain_unlink**(1M) command. If another IDN operation is in progress at the time, it displays `busy`, then waits for the previous IDN operation to complete.

If the **domain_unlink**(1M) command fails because multiple IDN members are in unknown states, you may have to execute it manually to unlink those domains prior to performing the **bringup**.

Note that the unlinking of the domain from its respective IDN is a transient condition; the MIB is not updated. Once the domain boots, if the proper IDN software is present the SSP Event Detection Daemon, **edd**(1M), will detect the availability of the domain and automatically perform a **domain_link**(1M) to reconnect the domain to its IDN.

5. Executes **hpost**(1M) with its `-C` option to configure the centerplane then the domain, or without it to configure just the domain.
6. Starts **obp_helper**(1M) and **netcon_server**(1M) to proceed with the OBP and operating system boot sequence and set up the network console.
7. Updates the MIB according to the final domain configuration.

OPTIONS

- `-f` Force execution, even if the domain is already up.
- Warning:** **bringup** passes `-C` to **hpost**(1M) when appropriate, regardless of whether you specify it on the **bringup** command line. However, if you specify `-f` with `-C`, **bringup** passes `-C` even if one or more other domains are up, causing those other domains to be reset. Therefore, be extremely careful about specifying `-C` and `-f` together.

Note that if `-f` is used, **bringup** does not check whether the domain is powered up.

- `-F` Do not use this option on the command line. It is reserved for automatic reboot scripts; see **edd**(1M).
- `-Q` Send a request for **hpost**(1M) to execute a faster, limited version of POST. Use `-Q` only as a means to recover from an Ultra Enterprise 10000 system reboot.
- `-L` Send a request for **hpost**(1M) to use its `-s` and `-v10` options, sending all output to the syslog.
- `-v` Send a request for **hpost**(1M) to use its `-v70` option, which produces

more detailed information.

-g, **-l***level*, **-p** *proc*, **-C**, **-X** *blacklist_file_pathname*

bringup passes these options to **hpost**(1M).

-A {**on** | **off**}, **-D** {**on** | **off**}

bringup passes these options to **obp_helper**(1M).

boot_args

bringup assumes that arguments other than those described above are boot arguments and passes them to **obp_helper**(1M), which passes them verbatim to the OpenBoot **boot**(1M) command.

ENVIRONMENT

The environment variable **SUNW_HOSTNAME** must be set to the name of the domain.

SEE ALSO

check_host(1M), **domain_unlink**(1M), **hpost**(1M), **netcon_server**(1M), **obp_helper**(1M), **snmpd**(1M), **sys_reset**(1M) in the *Ultra Enterprise 10000 SSP Reference Manual*

boot(1M) in *man Pages(1M): System Administration Commands of the SunOS Reference Manual*

Inter-Domain Networks User's Guide

NAME	cb_prom – upgrade PROM
SYNOPSIS	cb_prom [-d <i>file</i>] [-e] [-p <i>file</i>]
DESCRIPTION	Caution: Only authorized service providers should use this command. cb_prom manipulates the contents of the Enterprise 10000 Control Board Flash PROM on the primary control board. This PROM is designated for field upgrades to the boot firmware required to download the Control Board Executive (CBE).
OPTIONS	-d <i>file</i> Dump the contents of the Flash PROM to <i>file</i> . -e Erase the contents of the Flash PROM. -p <i>file</i> Program the Flash PROM with the contents of <i>file</i> .
Notes	Execute this command only when logged on as user 'ssp' on the SSP used by the Control Board as a boot (TFTP) server. The /tftpboot directory is used for file transfers between the Control Board and the SSP, and should be writable by user 'ssp'.

NAME	cb_reset – reset and reboot hung control board
SYNOPSIS	cb_reset [-v] [-p <i>platform_name</i>] [<i>control_board_name</i>]
DESCRIPTION	In its default form cb_reset sends a fixed Ethernet packet to the certain control board(s) of the Enterprise 10000 system specified by the SUNW_HOSTNAME environment variable, causing those boards to reset and reboot themselves. cb_reset sends reset packets to all network links that are up. You can use ifconfig (1M) with its -au option to see a list of such links.
OPTIONS	<p>-v (Verbose mode) Display a message confirming that the packet has been sent, along with the Ethernet addresses of both the source (the Enterprise 10000 system that sent the packet) and destination (the control board that received it). When used, this option must appear first on the command line.</p> <p>-p <i>platform_name</i> Send the Ethernet packet to the control board of the specified Enterprise 10000 system (<i>platform_name</i>).</p> <p><i>control_board_name</i> Send the Ethernet packet to the specified control board, where the name of the <i>control_board_name</i> is specified in cb_config(4). If -p is also specified, cb_reset sends the packet to the specified control board on the specified Enterprise 10000 system. Otherwise, it sends it to the specified board on the system specified by the SUNW_HOSTNAME environment variable.</p>
FILES	SSSPVAR/.ssp_private/cb_config – control board configuration file
SEE ALSO	edd (1M), ssp_startup (1M)

NAME	cbs – control board server
SYNOPSIS	cbs
DESCRIPTION	<p>Caution: Do not execute this program manually. It is automatically invoked by the SSP startup script and periodically monitored for re-start.</p> <p>The cbs server program provides central access to the Enterprise 10000 control board for client programs running on the SSP. It has sole access to the Enterprise 10000 JTAG scan database and is the lock manager for all JTAG operations.</p> <p>cbs converts client requests to CBMP (Control Board Management Protocol) messages and passes them to the control board executive (cbe) running on the Enterprise 10000 control board. It relies on domain_config(4) and cb_config(4) to determine which platform it is to manage and which control board it is to use for communication.</p> <p>The communication protocol between cbe and cbs allows SSP applications to retrieve and modify control board resources, perform JTAG scan operations, and submit monitoring scripts.</p> <p>Each SSP can run only one instance of cbs at a time.</p>
FILES	<p>SSPVAR/data/Ultra-Enterprise-10000 – Enterprise 10000 JTAG scan database SSPVAR/pid/cbs.pid – process ID file SSPVAR/.ssp_private/domain_config – domain configuration file SSPVAR/.ssp_private/cb_config – control board configuration file</p>
SEE ALSO	machine_server(1M) , domain_config(4) , cb_config(4)

NAME	check_host – determine whether the domain is up
SYNOPSIS	check_host [-q]
DESCRIPTION	check_host is called from the bringup(1M) script to check whether the domain specified by the environment variable <code>SUNW_HOSTNAME</code> is up. If all configured processors are running the operating system, check_host sees the domain as up, displays the message <code>Host is UP</code> , and returns a status 0. If any configured processors are not running the operating system, check_host considers the domain down, displays <code>Host is DOWN</code> , and returns a status 1.
OPTION	-q (Quiet Mode) Report the exit status, but do not echo any information to stdout.
NOTE	Processors are configured by hpost(1M) , which is run by bringup(1M) . bringup(1M) does not execute if the domain is up. bringup -f overrides this safety feature.
SEE ALSO	bringup(1M) , edd(1M) , hpost(1M) , snmpd(1M)

NAME	domain_create – create new domain or recreate old one
SYNOPSIS	<p>domain_create -d <i>domain_name</i></p> <p>domain_create -d <i>domain_name</i> -b <i>sysboard_list</i> -o <i>os_version</i> -p <i>platform_name</i> [-t <i>platform_type</i>]</p>
DESCRIPTION	<p>You can use the domain_create command to create a domain, or to recreate a domain that once existed but was subsequently removed via domain_remove(1M). The domain_history(1M) command displays a list of domains removed by domain_remove(1M).</p> <p>When creating a new domain, you must specify the -d, -b, -o and -p options. domain_create creates the new domain and assigns it the name specified by -d.</p> <p>When recreating a domain, you must use only the -d option. domain_create recreates the domain according to its original specifications. If it can find no information about a previously existing domain of that name, domain_create returns an error.</p> <p>You can execute domain_create from the command line, or by selecting Configuration -> Domain -> Create from within Hostview (see hostview(1M)).</p> <p>Note: Many steps are required to create a domain. See the section "Domains" in Chapter 3 of the <i>Ultra Enterprise 10000 SSP User's Guide</i>.</p>
CONDITIONS	<p>Execute domain_create only when all of the following are true:</p> <ul style="list-style-type: none"> • The composition of system boards specified for the domain have, at minimum, a network interface, SCSI interface, and sufficient memory to support an autonomous system. • The domain name is unique in the host's database. • The system boards are all present and none are in use.
OPTIONS	<p>-d <i>domain_name</i> Either recreate the removed domain named <i>domain_name</i>, or create a new domain and assign it the name <i>domain_name</i>.</p> <p>-b <i>sysboard_list</i> Include the specified system boards in the new domain. The system boards are listed by board number and are separated by a single comma or space.</p> <p>-o <i>os_version</i> The version of the operating system to be running on the domain.</p> <p>-p <i>platform_name</i> The name of the Enterprise 10000 system whose boards are to be used for the new domain.</p>

-t *platform_type*

The type of system from which the domain originates. The default is the platform type of the machine from which the domain originates. The platform type for the Enterprise 10000 system is SUNW,Ultra-Enterprise-10000.

EXAMPLE

domain_create -d junior -b 0,2,9 -o 2.5.1 -p dad

Creates a domain named junior, which is configured with three boards numbered 0, 2 and 9, and that runs version 2.5.1 of the operating system. junior's boards came from the machine whose platform name is dad.

RETURN VALUES

Upon successful completion **domain_create** returns a zero value and reconfigures the SSP to see the new domain; otherwise, it returns a non-zero value.

ERRORS

One or more of the system boards in *sysboard_list* are being used by another domain.

The *domain_name* already exists.

There are no host ids available.

If you get this message, call your service advisor.

NOTES

The **domain_create** command can create only one domain at a time.

After creating a domain from the command line (this step is not necessary when doing so from Hostview), set the SUNW_HOSTNAME environment variable as follows to ensure proper operation of the SSP command set:

```
setenv SUNW_HOSTNAME domainname
```

You can now bring up the domain via the **bringup(1M)** command.

Note that a new operating system patch may involve a new version of a host-dependent SSP binary. If so, the patch README file will have the operating system version number you should use to create the domain that will run the new operating system patch.

SEE ALSO

domain_history(1M), **domain_remove(1M)**, **domain_rename(1M)**, **domain_status(1M)**, **domain_switch(1M)**

NAME	domain_history – display or remove domain history
SYNOPSIS	domain_history [-d <i>domain_name</i>] [-r]
DESCRIPTION	When invoked with no options domain_history displays the domain_history(4) file, which contains configuration information about all domains that once existed, but were removed via domain_remove(1M) .
OPTIONS	-d <i>domain_name</i> Display configuration information for only the specified domain. -r Remove all configuration information from the domain_history(4) file. If you also specify -d , this option removes only the information about the specified domain. Note: Since recreating a domain is easier than creating a new one, exercise restraint in using the -r option.
RETURN VALUES	Upon successful completion domain_history returns a zero value; otherwise, it returns a non-zero value.
EXAMPLES	domain_history -d junior Displays configuration information about the previously existing domain named junior. domain_history -d junior -r Removes the entry for the previously existing domain named junior from the domain_history(4) file.
ERRORS	<i>domain_name</i> does not exist. domain_history could not find an entry of the specified name in the domain_history(4) file.
SEE ALSO	domain_create(1M) , domain_remove(1M) , domain_rename(1M) , domain_status(1M) , domain_switch(1M) , domain_history(4)

NAME	domain_link – link domains to form or expand an Inter-Domain Network
SYNOPSIS	domain_link [-m] <i>domain_name_1</i> <i>domain_name_2</i> domain_link <i>domain_name_1</i> [-m] <i>domain_name_2</i>
DESCRIPTION	<p>Note: The Inter-Domain Network feature works only on Ultra Enterprise 10000 systems that are running Solaris 2.6 or later.</p> <p>domain_link combines the two specified domains into an IDN (Inter-Domain Network). Both domains must contain at least one processor. If one domain is already a member of an IDN, domain_link adds the other domain to that network. If both domains are members of different IDNs, domain_link combines those networks into a single, larger IDN. And if neither domain is already part of an IDN, domain_link creates a new IDN with both domains as members.</p> <p>Each IDN has one master domain, which maintains the shared memory region (SMR), as described in the <i>IDN User's Guide</i>. By default, the SMR is dynamically chosen by the IDN subsystem. When executing domain_link you can use the -m option to designate either specified domain as the master domain; however, IDN may not comply. See -m in OPTIONS, below.</p> <p>All domains within an IDN are logically connected in a point-to-point configuration; if one domain goes down, the others can continue communicating over the IDN. The IDN also supports broadcasting at the network interface level.</p>
OPTIONS	<p><i>domain_name_1</i>, <i>domain_name_2</i> Link <i>domain_name_1</i> into an IDN with <i>domain_name_2</i>. Both of these arguments are required.</p> <p>-m <i>domain_name_x</i> Make the specified domain – either <i>domain_name_1</i> or <i>domain_name_2</i> – the master domain of the IDN. The master domain maintains the Shared Memory Region (SMR) used by all domains in the IDN as a conduit for communication. When -m is specified, the master domain is determined based on the following information:</p> <ul style="list-style-type: none"> • If neither domain is a member of an existing IDN network, -m successfully designates to the specified domain. • If one domain is a member of an existing IDN, the master domain of that network remains the master domain; -m is ignored. • If both domains are members of existing IDNs, the master domain of the network that contains the domain specified by -m remains the master domain. <p>If you create a new IDN and do not specify -m, the IDN subsystem dynamically designates one domain as master based on the current IDN configuration and the physical capacity of the domains being linked. If you link two existing IDNs and do not specify -m, IDN uses the same</p>

process to determine which master remains master.

SEE ALSO

domain_unlink(1M) in the *Solaris Reference for SMCC-Specific Software*

domain_history(1M), **domain_create(1M)**, **domain_remove(1M)**, **domain_rename(1M)**,
domain_status(1M), **ifconfig(1M)**, **hosts(4)** in the *Ultra Enterprise 10000 Reference Manual*

IDN User's Guide

Ultra Enterprise 10000 SSP User's Guide

NAME	domain_remove – remove an existing domain
SYNOPSIS	domain_remove -d <i>domain_name</i>
DESCRIPTION	<p>domain_remove dismantles the specified domain, reconfiguring its system boards to a <i>physically present and not in use</i> state on the Enterprise 10000 system. You should not remove a domain until it has been shutdown, and you cannot remove a domain that is a member of an IDN. See the Caution in the ERRORS section, below.</p> <p>domain_remove displays the following message, giving you the option of saving certain information:</p> <pre style="margin-left: 40px;">The following subdirectories contain domain-specific information, such as messages files, configuration files, and hpost dump files. You may choose to keep these directories if you still need this information. This domain may be recreated with or without this information being saved.</pre> <p>domain_remove then asks whether you want to keep the specific subdirectories. After you respond it does as you ask, then proceeds.</p> <p>After domain_remove completes, the boards are available for a subsequent domain_create(1M) or DR Attach.</p> <p>You can execute domain_remove from the command line, or you can do so via Hostview. To use Hostview to remove a board, select a board in the domain you wish to remove and choose Configuration -> Domain -> Remove. You cannot remove a domain when it is running the operating system.</p> <p>If interrupted during its configuration-verification phase, domain_remove aborts. After this phase, once it has begun the reconfiguration, it cannot be interrupted.</p>
RETURN VALUES	Upon successful completion domain_remove returns a zero value; otherwise, it returns a non-zero value.
ERRORS	<p>Domain '<i>domain_name</i>' is up, must be shutdown before removing. Continue anyway (y/n)?</p> <p style="margin-left: 40px;">The specified domain is running the operating system.</p> <p>Caution: If you tell domain_remove to continue, removing a domain that is running the operating system, it will do so, crashing the domain and potentially causing loss of data.</p>

domain_remove: Domain (*domain_name*) is linked to an IDN Network. Domain must be unlinked before it can be removed. See **domain_unlink(1M)**.

The specified domain is a member of an IDN. It must be unlinked from the IDN before it can be removed.

NOTES

Each execution of the **domain_remove** command can remove only one domain.

Upon successful removal of the configuration, the corresponding **obp_helper(1M)** and **netcon_server(1M)** daemons are also terminated.

SEE ALSO

domain_create(1M), **domain_history(1M)**, **domain_unlink(1M)**, **domain_rename(1M)**, **domain_status(1M)**, **domain_switch(1M)**, **netcon_server(1M)**

NAME	domain_rename – rename an existing domain
SYNOPSIS	domain_rename -d <i>domain_name</i> -n <i>new_domain_name</i>
DESCRIPTION	<p>domain_rename changes the name of a domain from that specified by -d to that specified by -n. It does so by updating the SSP configuration.</p> <p>Note: When renaming a domain you must reconfigure the Internet address and other configuration information on the Enterprise 10000 system to enable it to recognize the domain's new name; otherwise, the domain cannot be reached and controlled by the SSP.</p> <p>You can execute domain_rename from the command line or from Hostview. Your attempt fails if the target domain already is running the operating system.</p> <p>If interrupted during its configuration-verification phase, domain_rename aborts. You cannot interrupt it after it has completed this phase and begun the reconfiguration.</p>
RETURN VALUES	Upon successful completion domain_rename returns a zero value (otherwise, it returns a non-zero value). You now can bring up the domain via the bringup (1M) command.
ERRORS	<p><i>domain_name</i> does not exist.</p> <p>domain_rename cannot find the specified domain name.</p> <p><i>new_domain_name</i> already exists.</p> <p>The name you are trying to assign the domain is already in use.</p>
NOTES	<p>After renaming a domain via this command you must set the SUNW_HOSTNAME environment variable as follows to ensure proper operation of the SSP command set:</p> <p style="padding-left: 40px;">setenv SUNW_HOSTNAME <i>new_domain_name</i></p>
SEE ALSO	domain_create (1M), domain_history (1M), domain_remove (1M), domain_status (1M), domain_switch (1M)

NAME	domain_status – display domain status
SYNOPSIS	domain_status [-d <i>domain_name</i>]
DESCRIPTION	<p>domain_status displays the domain_config(4) file, which contains the following information for each configured domain: domain name, platform type, platform name, operating system, system boards, and Inter-Domain Network (IDN) information. (IDN is available on Ultra Enterprise 10000 servers running Solaris 2.6 or later.)</p> <p>Note: domain_status Inter-Domain Networks are identified in the listing by a number, followed by the names of the domains in that network, similar to the following:</p> <p>0: xf3-b2, xf3-b8 1: xf3, xf3-b5-fddi0</p> <p>The listing number is simply a tag used in the listing; it is not a persistent identifier for the IDN.</p>
OPTIONS	<p>-d <i>domain_name</i> Show information about only the specified domain.</p>
RETURN VALUES	Upon successful completion domain_status returns a zero value; otherwise, it returns a non-zero value.
ERRORS	The <i>domain_name</i> does not exist. domain_status was unable to find a domain of the specified name.
SEE ALSO	domain_create(1M) , domain_history(1M) , domain_remove(1M) , domain_rename(1M) , domain_switch(1M)

NAME	domain_switch – change domain name in SUNW_HOSTNAME
SYNOPSIS	domain_switch <i>domain_name</i>
DESCRIPTION	<p>domain_switch is a cs(1) alias defined by user ssp's .cshrc file. When logged in as user ssp you can execute domain_switch on the command line to change the environment variable SUNW_HOSTNAME, making the the current SSP session control the specified domain. domain_switch also changes the cs(1) prompt to reflect the new value of SUNW_HOSTNAME.</p> <p>Note that the domain_switch alias is less robust than the true SSP commands. If you specify more than one <i>domain_name</i> argument, only the first is used. domain_switch makes no effort to verify that the specified domain name is valid. And if you do not specify a <i>domain_name</i> argument, domain_switch generates a message similar to the following:</p> <pre>xf1-ssp:xf1% domain_switch Bad ! arg selector</pre>
EXAMPLES	<pre>xf1-ssp:xf1% domain_switch xf1-deux Switch to domain xf1-deux xf1-ssp:xf1-deux%</pre>

NAME	domain_unlink – unlink domain(s) from an Inter-Domain Network (IDN)
SYNOPSIS	domain_unlink [-f] <i>domain_name</i> [<i>domain_name</i> ...]
DESCRIPTION	<p>Note: The Inter-Domain Network feature works only on Ultra Enterprise 10000 systems that are running Solaris 2.6 or later.</p> <p>domain_unlink disconnects one or more domains from an IDN (Inter-Domain Network). (A single instance of this command cannot remove domains that are on different IDNs.) Any domains that remain in the IDN continue to communicate over that network in the normal fashion. Before unlinking a domain you should verify that the associated network interface is not in use.</p>
OPTIONS	<p><i>domain_name</i>(s) Unlink the specified domain or domains from the IDN to which they belong.</p> <p>-f Force option. By default, you cannot unlink a domain if another domain in the same IDN is in an unknown state, such as halted or hung. The force option bypasses this check and unlinks the specified domain without performing any synchronization between that domain and the other domains in the IDN.</p> <p>Caution: Use the force option only if you can guarantee that the domains in an unknown state will not attempt to communicate subsequently over the IDN with the domains being unlinked. If any domain attempts to communicate with another domain over an IDN, and if either of those domains has performed a forced unlink from the other, all domains within the IDN may hang or arbstop. The preferred procedure is to first unlink or reboot the domains that are in an unknown state before forcing an unlink of any other domains in the IDN.</p> <p>Note: If multiple domains within the same IDN are in an unknown state, all domains must be unlinked simultaneously in a single domain_unlink(1M) command. This operation may be necessary prior to a bringup(1M) if the domain being booted is a member of an IDN with multiple domains in unknown states.</p>
SEE ALSO	<p>domain_create(1M), domain_history(1M), domain_remove(1M), domain_rename(1M), domain_status(1M) in the <i>Ultra Enterprise 10000 Reference Manual</i></p> <p>domain_link(1M), in the <i>Solaris Reference for SMCC-Specific Software</i></p> <p>ifconfig(1M) in the <i>SunOS Reference Manual</i></p> <p><i>IDN User's Guide</i></p> <p><i>Ultra Enterprise 10000 SSP User's Guide</i></p>

NAME	edd – event detector daemon
SYNOPSIS	edd [-a] [-d]
DESCRIPTION	<p>Caution: Do not execute this program manually. It is automatically invoked by the SSP startup script and periodically monitored for re-start.</p> <p>edd is a key component of the Enterprise 10000 system's RAS features. When executed with no options, it checks the edd.emc(4) configuration file to determine which event-detection scripts it should use in monitoring the system. Then, if it detects one of those events for which it is checking, edd uses the edd.erc(4) configuration file to determine whether to take action and, if so, what action to take. If appropriate, it then executes the specified Response Action Script.</p> <p>Each Enterprise 10000 system has one edd.emc(4) file, one edd.erc(4) file for global events (those that affect the entire system), and one edd.erc(4) file for each domain. The locations of these files are shown below in FILES. Refer to edd.emc(4) for a list of the events being monitored and edd.erc(4) for a list of the actions to be taken if any of those events occur.</p> <p>You can prevent edd from responding to some events by editing either the edd.emc(4) file to disable the uploading of certain event-detection scripts, or editing the edd.erc(4) file to prevent edd from executing certain Response Action Scripts.</p> <p>In case of conflict the options to edd override any actions specified in the edd.emc(4) and edd.erc(4) files.</p> <p>Note for Service Providers:</p> <p>When edd produces a dumpfile due to an arbstop or recordstop in a domain that is part of an Inter-Domain Network (IDN), the dumpfile provides information about all domains in that IDN. IDN is available only on Enterprise 10000 systems running Solaris 2.6 or later.</p>
OPTIONS	<p>-a Take no action; do not invoke any Response Action Scripts.</p> <p>-d Do not upload event monitoring scripts to the active control board.</p>
SIGNALS	<p>SIGHUP Reread the event response configuration files. This signal does not affect response actions for previously received events.</p>
FILES	<p>\$SSPVAR/etc/platform_name/edd.emc \$SSPVAR/etc/platform_name/edd.erc \$SSPVAR/etc/platform_name/domain_name/edd.erc</p>
SEE ALSO	cbs(1M) , edd_cmd(1M) , hostview(1M) , snmpd(1M) , edd.emc(4) , edd.erc(4)

NAME	edd_cmd – send a command to edd
SYNOPSIS	edd_cmd [-x <i>cmd</i>]
DESCRIPTION	<p>Caution: This command is for use primarily by service providers. Consult with your service provider before using it.</p> <p>edd_cmd is a utility tool. When executed with no argument it outputs the current execution state – either started-monitoring or stopped-monitoring – of the edd(1M) daemon. When executed with its -x option, edd_cmd makes edd(1M) start or stop event-detection monitoring, or reread its configuration files. edd(1M) uses the cbs(1M) daemon to do the starting or stopping.</p> <p>When edd_cmd sends a command to edd(1M), it sets a trap handler that waits for an acknowledgement that edd(1M) has accepted the command.</p>
OPTIONS	<p>-x cmd Execute the specified command, where <i>cmd</i> is of the following:</p> <ul style="list-style-type: none"> start Make edd(1M) start event-detection monitoring. stop Make edd(1M) stop event-detection monitoring. rc Make edd(1M) reread its configuration files and perform event-detection monitoring.
EXAMPLES	<p>The following example shows how to use edd_cmd to check a state, change that state, then check it again:</p> <pre>% edd_cmd EDD: Control = stop, State = stopped-monitoring % edd_cmd -x start % edd_cmd EDD: Control = start, State = started-monitoring</pre>
FILES	<p>\$SSPETC/snmp/Ultra-Enterprise-10000.dat \$SSPETC/snmp/Ultra-Enterprise-10000.mib</p>
SEE ALSO	edd(1M) , snmpd(1M) , straps(1M)

NAME	fad – file access daemon
SYNOPSIS	fad
DESCRIPTION	<p>Caution: Do not execute this daemon manually. The SSP startup script invokes it, then monitors it and restarts it as necessary.</p> <p>The fad daemon provides distributed file access services to SSP clients that need to monitor, read and write changes of SSP configuration files. Only readable files listed in the fad_files(4) file can be monitored.</p> <p>fad provides a file-locking service similar to lockf(3C). Once a file is locked by a client, subsequent lock requests against the same file by other clients are blocked and queued. When a file lock is released, the next client on the queue is unblocked and serviced.</p> <p>fad relies on other SSP server daemons, including machine_server(1M). Each SSP can run only one instance of fad at a time.</p>
FILES	<p>SSPVAR/.ssp_private/fad_files – SSP configuration file list</p> <p>SSPVAR/pid/fad.pid – process ID file</p>
SEE ALSO	<p>machine_server(1M) in Section 1M of the <i>Ultra Enterprise 10000 SSP Reference Manual</i></p> <p>fad_files(4) in Section 4 of the <i>Ultra Enterprise 10000 SSP Reference Manual</i></p> <p>lockf(3C) in <i>man Pages(3): Library Routines</i> of the <i>SunOS Reference Manual</i></p>

NAME	fan – display or control fan power and speed								
SYNOPSIS	fan fan -p on fan -p off [-l {front rear}] [-t <i>FanTrayList</i>] fan -s {nominal fast}								
DESCRIPTION	<p>When used without options, the fan command displays the speed and power status of the fans. When used with the -s or -p option, it changes their speed or power status. You can use -l and -t with -p off to specify which fans are to be turned off. fan -p on turns on all fans.</p> <p>Each Enterprise 10000 system has four fan shelves, two in the front of the cabinet and two in the rear. Each shelf contains four fan trays, for a total of 16 fan trays. Each fan tray can contain two fans (numbered 0 and 1), for a maximum of 32 fans per system.</p> <p>The fan trays are organized as follows:</p> <table border="0" style="margin-left: 40px;"> <tr> <td>Fan trays 0, 1, 2, 3</td> <td>Shelf 0 at front-center of the cabinet</td> </tr> <tr> <td>Fan trays 4, 5, 6, 7</td> <td>Shelf 1 at front-bottom of the cabinet</td> </tr> <tr> <td>Fan trays 8, 9, 10, 11</td> <td>Shelf 2 at rear-center of the cabinet</td> </tr> <tr> <td>Fan trays 12, 13, 14, 15</td> <td>Shelf 3 at rear-bottom of the cabinet</td> </tr> </table> <p>Every fan tray has an opposite counterpart on a different shelf, but on the same side; one tray sucks air into the cabinet, the other blows it out. For example, Tray 3 of Shelf 0 is opposite Tray 7 of Shelf 1, and Tray 9 of Shelf 2 is opposite Tray 13 of Shelf 3.</p>	Fan trays 0, 1, 2, 3	Shelf 0 at front-center of the cabinet	Fan trays 4, 5, 6, 7	Shelf 1 at front-bottom of the cabinet	Fan trays 8, 9, 10, 11	Shelf 2 at rear-center of the cabinet	Fan trays 12, 13, 14, 15	Shelf 3 at rear-bottom of the cabinet
Fan trays 0, 1, 2, 3	Shelf 0 at front-center of the cabinet								
Fan trays 4, 5, 6, 7	Shelf 1 at front-bottom of the cabinet								
Fan trays 8, 9, 10, 11	Shelf 2 at rear-center of the cabinet								
Fan trays 12, 13, 14, 15	Shelf 3 at rear-bottom of the cabinet								
OPTIONS:	<p>-p on Turn on power to all fans.</p> <p>-p off Turn off power to all fans. See also -l and -t, which you can use with -p off to turn off specific fans. In case of conflict, the fans specified by -l take precedence over those specified by -t. See the examples, below.</p> <p>-l {front rear} Turn off power to only the specified front or rear fan shelf and, if applicable, to the fan trays specified by -t. Use this option only with power -p off.</p> <p>-t <i>FanTrayList</i> Turn off power to only the specified fan trays and, if applicable, the shelf specified by -l. <i>FanTrayList</i> is a space-separated list of fan tray numbers expressed as integers, 0 to 15 inclusive. Use this option only with power -p off.</p> <p>-s {nominal fast} Set the speed of all fans to either nominal or fast, as specified. All fans in the system run at the same speed. Once you change the fan speed, it remains in effect until changed again via the fan -s command. The default speed is nominal.</p>								

EXAMPLES**Example 1**

The following command sets the speed of all fans to fast.

```
fan -s fast
```

Example 2

The following command turns off all fans on the two front fan shelves. The command specifies both a fan shelf (**-I**) and a list of fan trays (**-t**), and the former takes precedence.

```
fan -p off -I front -t 0 1 2
```

SEE ALSO

cbs(1M), **edd(1M)**, **hostinfo(1M)**, **hostview(1M)**, **snmpd(1M)**

NAME	hostinfo – display system information
SYNOPSIS	hostinfo -F -S -h -p -t
DESCRIPTION	hostinfo sends to standard out certain real-time host-relevant data. It queries the snmpd(1M) daemon for this information, which snmpd(1M) fetches from the Enterprise 10000 system specified in the SUNW_HOSTNAME environment variable.
OPTIONS	-F Display fan configuration and status. -S Display the contents of the signature block for each configured processor. -h Display the state and signature of each configured processor. -p Display power supply readings of all system boards, control boards, and fan trays, and of the centerplane and I/O cabinet. -t Display the ambient temperature of the Enterprise 10000 system specified in the SUNW_HOSTNAME environment variable, and the temperature readings of its control boards and system boards. All temperatures are shown in Centigrade.
FILES	SSSPETC/snmp/Ultra-Enterprise-10000.mib
SEE ALSO	snmpd(1M)

NAME	hostint – interrupt processor, dump kernel core
SYNOPSIS	hostint [-p <i>proc</i>] [-v]
DESCRIPTION	<p>hostint causes a hung domain to panic, dump then reboot. When used without its -p option hostint sends an interrupt signal to the boot processor of the domain specified in the <code>SUNW_HOSTNAME</code> environment variable to cause a kernel core dump. It obtains the boot processor from the snmpd(1M) daemon running on the SSP.</p> <p>Note: Use hostint only when the domain is hung and the hang is not detected by edd(1M), which would normally do an automatic reboot.</p> <p>Other steps, both more and less impactful, are available to unhang the domain. Try each of the following procedures, in the order shown, until the hang is fixed:</p> <ol style="list-style-type: none"> 1. Attempt a reboot from any functional login on the domain. If this works, the domain was not fully hung. Core is not dumped. 2. Attempt to break into OpenBoot from the console by sending a break. You can do so via either netcon(1M) or netcontool(1M). Once in OpenBoot, issue the command sync, which causes a panic dump and reboot. 3. Execute hostint. If this step is successful, the domain panics, dumps, then reboots. 4. Execute hostreset(1M). If this step is successful edd(1M) saves processor state specific to the reset. You can then initiate a bringup. 5. If steps 1 through 4 fail, execute bringup(1M) with its -f option.
OPTIONS	<p>-p <i>proc</i> Send the interrupt signal to the specified processor rather than the boot processor.</p> <p>-v Verbose Mode. Display information to stdout.</p>
ENVIRONMENT	The environment variable <code>SUNW_HOSTNAME</code> must be set to the name of the domain.
SEE ALSO	bringup (1M), netcon (1M), snmpd (1M)
FILES	SSSPETC/snmp/Ultra-Enterprise-10000.mib

NAME	hostreset – reset a hung domain
SYNOPSIS	hostreset
DESCRIPTION	<p>hostreset resets the domain specified by the SUNW_HOSTNAME environment variable, executing an external interrupt (XIR). Upon successful execution, a <i>resetinfo</i> file that contains pertinent processor information is generated.</p> <p>Other, less-traumatic steps are available to unhang the domain. Try each of the following procedures, in the order shown:</p> <ol style="list-style-type: none"> 1. Attempt a reboot from any functional login on the domain. If this works, the domain was not fully hung. Core is not dumped. 2. Attempt to break into OpenBoot from the console by sending a break. You can do so via either netcon(1M) or netcontool(1M). Once in OpenBoot, issue the command sync, which causes a panic dump and reboot. 3. Execute hostint(1M). If this step is successful, the domain panics, dumps, then reboots. 4. Execute hostreset. If this step is successful edd(1M) saves processor state specific to the reset. You can then initiate a bringup. 5. If steps 1 through 4 fail, execute bringup(1M) with its -f option.
ENVIRONMENT	The environment variable SUNW_HOSTNAME must be set to the name of the domain.
FILES	\$SSPVAR/adm/\$SUNW_HOSTNAME/resetinfo
SEE ALSO	bringup(1M), netcon(1M), edd(1M), hostint(1M)

NAME	hostview – system monitor Graphical User Interface
SYNOPSIS	hostview
DESCRIPTION	<p>Hostview is the Graphical User Interface (GUI) that makes it easy for you to display and modify the Enterprise 10000 system's configuration and environmental data. Hostview spawns SSP commands.</p> <p>You can start and run Hostview in the background of an SSP Window by issuing the following command:</p> <pre>hostview &</pre>
ENVIRONMENT	<p>To run Hostview from another display, make sure the DISPLAY environment variable is set for that display and the environment variable SUNW_HOSTNAME is set to either the platform name or domain hostname. The following example shows one way to do so.</p> <pre>rlogin -l ssp ssp_host setenv DISPLAY local_host:0 hostview &</pre> <p>For more information about Hostview and its various screens, see the <i>Ultra Enterprise 10000 SSP User's Guide</i>.</p>

NAME	hpost – control and sequence POST through JTAG
SYNOPSIS	hpost [-?] [-?postrc -?blacklist -?level -?verbose]
DESCRIPTION	<p>hpost [-Ccfnqs] [-D[boardmask,][path]] [-d "comment"] [-excode] [-g[path none]] [-Hboardmask,refproc] [-i[proc]] [-Jbus_mask] [-JJbus_mask] [-llevel] [-pproc] [-Qproc[,skipmask]] [-R{redlist_file none}] [-vlevel] [-X{blacklist_file none}] [-W[c]] [-Zproc]</p> <p>Warning: This command is for use by your service provider only. Improper use can cause catastrophic operating system failure.</p> <p>The POST (Power On Self Test) program probes and tests the components of uninitialized Enterprise 10000 hardware, configures what it deems worthwhile into a coherent initialized system, and hands it off to OBP (OpenBootProm). hpost is the SSP-resident executable program that controls and sequences the operations of POST through the IEEE 1149.1 JTAG scan interface between the Enterprise 10000 domain and the SSP.</p> <p>Unless -n is the first argument on the hpost command line, hpost reads an optional file, .postrc, and executes the directives in that file before it begins operation with the host (see postrc(4)). hpost first looks for .postrc in the current directory (.). If it does not find it there, hpost looks in SSPVAR/etc/platform_name/SSUNW_HOSTNAME. If it does not find .postrc there, it looks in the user's home directory, \$HOME. Exception: If the current directory is \$HOME, the first element of the search path (.) is skipped. If hpost does not find .postrc it proceeds without it.</p> <p>The following command provides a terse listing of .postrc file syntax and directives:</p> <p style="text-align: center;">hpost -?postrc</p> <p>The following information pertains to the hpost options:</p> <ul style="list-style-type: none"> • Numerical option arguments are generally assumed to be decimal, but may be given as hex if preceded by x or 0x. Exception: arguments identified as a <i>mask</i> are assumed hex. • <i>board</i> is a system board number in the range 0 to 15, inclusive. • <i>proc</i> is a processor number in the range 0 to 63, inclusive, that corresponds to the physical location as (board * 4 + processor_module #). • Hyphenated flags and their arguments are not separated by a space. • The question mark that precedes the first group of options can be replaced by the letter h. For example, -?postrc = -hpostrc. <p>-? Display a terse description of arguments.</p> <p>-?postrc Display a terse description of the .postrc file.</p>
OPTIONS	

- ?blacklist**
Display a terse description of **blacklist(4)** / **redlist(4)** file syntax.
- ?level** Display a terse description of level number meanings.
- ?verbose**
Display a terse description of verbose number meanings.
- C** Do the initial configuration of the centerplane. If **-C** is not invoked, **hpost** assumes that one or more other domains in the same physical platform have already been configured and are running. **hpost** probes the centerplane to determine the bus configuration, the only configuration it considers. If **hpost** cannot determine a valid configuration from this probe, it immediately fails.
If **-C** is invoked, **hpost** assumes nothing else is running on this platform, and tests and configures the system, including the centerplane, in the bus configuration with the highest figure of merit in the domain in which it is run.
- c** Parse (as **hpost** normally does) the **.postrc**, **blacklist(4)** and **redlist(4)** files, reporting any syntax errors, then immediately exit. See **postrc(4)**, **blacklist(4)** and **redlist(4)**.
- D[boardmask,][path]**
Invoke a special mode of POST that scans out state from the host, dumps it to a binary file, then immediately exits. If *path* is not specified, a default path is used. (The comma after *boardmask* is always required.) **hpost** cannot examine the dump files, but your service provider and Sun Microsystems can.
If specified, *boardmask* is a 20-bit mask of the parts of the machine to be included in the dump. Bits 0 through 15 correspond to the system boards, bits 16 and 17 to the two half-centerplanes, and bits 18 and 19 to the two control boards. If *boardmask* is not specified, **hpost** assumes its value is FFFFF and includes all parts of the system in the dump. However, **hpost** then applies a heuristic decision algorithm to recognize system boards that are not present or powered off, and it does not include these boards in the dump file. No such editing is done if a *boardmask* is specified.
If **-D** is specified and the standard input of **hpost** is a terminal, **hpost** prompts for a one-line comment to be embedded in the file. If you simply press RETURN, the comment line is empty. If you also specify **-d**, the prompt for a comment is suppressed. See **-d**.
- d "comment"**
Insert the specified comment into the dump file. A space must separate this option from its argument. Quotes are not necessary for a single-word comment. The comment is inserted regardless of the standard input means (terminal, script, etc.). See **-D**.
- excode** Print a one-line description of an **hpost** exit code to stdout.

- f** Ignore failure on creation of the POST lock file, which prevents more than one POST process from running simultaneously in the same domain.
- g{*path* | none}**
Create or do not create (**none**) a log of screen output and send it to the specified *path*. If *path* is not specified the log is placed in:

\$\$SSPVAR/adm/\$\$SUNW_HOSTNAME/post/postmdd.hhmm.log
- H*boardmask,refproc***
Run a special mode of POST that prepares one or more boards to be DR Attached to a running domain. *boardmask* is a 16-bit mask of the boards on which POST is to run. *refproc* is the current master CPU of the target domain, which must be on a different board.

Caution: Do not specify **-H** on the command line; it should be invoked only by another program as one step in the DR process. See dr(1M).
- i[*proc*]**
Execute in interactive mode. This option is used for debugging. If *proc* (a single processor number) is specified, only that processor is used and **hpost** begins an interactive session. If *proc* is not specified, all processors are used and **hpost** begins a simpler interactive session, just stopping before each phase of debug to ask whether it should execute that phase or continue to the next.
- J*bus_mask***
Use the specified bus configuration rather than selecting the configuration based on testing. This support mode of POST, for use only by Sun Microsystems, interprets *bus_mask* as a 6-bit binary mask for the desired bus configuration. The 2 most-significant bits are the data buses, the 4 least-significant bits are the address buses. 3F tells **hpost** to use all buses.
- JJ*bus_mask***
This option is similar to **-J**, but does only the JTAG initialization.
- l*level*** Set the diagnostic level for this run of POST. Acceptable values are in the range 7 to 127, inclusive; the default level is 16. **-?level** displays a brief summary.
- n** Inhibit reading of the **.postrc** file. If present, this argument must appear first.
- p*proc*** Use the specified processor as the preferred boot processor. This request is ignored if the specified processor is not in the final configuration.
- Q*proc[,skipmask]***
(Quick POST) Make POST read configuration information from bootbus sram in the indicated processor, then reconfigure, with minimum testing, the system described. This option is intended for quick recovery from software crashes. It is considered to have failed if the specified configuration cannot be effected.

The *skipmask* option enables the caller (usually another program) to skip certain steps in the initialization process that it determines are unnecessary. The goal is an even faster recovery. The bits in *skipmask* have the following meaning:

- 0 Perform all phases of the reconfiguration (the default)
 - 0x0001 Do not clear processor IMU tags and do not disable the IMU
 - 0x0002 Do not clear processor DMU tags and do not disable the DMU
 - 0x0004 Do not clear processor instruction caches
 - 0x0008 Do not clear processor data caches
 - 0x0010 Do not clear processor external caches
 - 0x0020 Do not clear CIC duplicate tags (DTAGs)
 - 0x0040 Do not initialize I/O controllers
 - 0x0080 Do not clear memory
- q** Quiet mode. All screen output is discarded.
- R**{*redlist_file* | **none**}
Use the specified redlist file, or no redlist file (**none**), rather than the default redlist file. See the **Caution**, below.
- s** Divert all screen output to *syslog* with appropriate priorities.
- vlevel** Set the message verbosity level. Acceptable values are in the range 0 to 255, inclusive; the default is 20. **-?verbose** displays a brief summary.
- X**{*blacklist_file* | **none**}
Do not use the default path. **none** suppresses use of any **blacklist(4)** file. See the **Caution**, below.
- W**[*c*] Clear any Recordstop state that may be present in the current domain, and attempt to reenables centerplane ASIC recording. If an Arbstop or other fatal error condition is detected in this domain, it is reported and the Recordstop clear attempt is abandoned. The result of this operation is reported in the **hpost** exit code (see **DIAGNOSTICS**, below).
- If a Recordstop condition exists in a different domain the attempt to reenables centerplane recording will fail. The failure will be reported, but will not cause this **-W** operation to be considered failed.
- Use the optional **c** flag with **-W** for a domain that is part of an Inter-Domain Network (IDN). Invoke **-Wc** for one and only one domain of the IDN; **hpost** clears Recordstop in that domain and all other domains in the IDN. (IDN is available on Enterprise 10000 servers running Solaris 2.6 or later.)
- This mode of **hpost** is normally invoked by an SSP event detection daemon after it creates a state dumpfile. See the **-D** option.
- Zproc** (Zip POST) Make POST read configuration information from bootbus sram in the indicated processor, and perform only the JTAG initialization of the system to effect the configuration described. This option is intended to allow dumps of the software state after a crash; this state would be destroyed by the normal POST configuration process. **hpost -Z** is considered to have failed if the specified configuration cannot be effected.
- Caution:** Be careful when using **-R** or **-X** in a production system; other SSP software will not know that a nonstandard **blacklist(4)** or **redlist(4)** file is in use by POST.

USAGE	POST is normally executed by supervisory scripts or programs on the SSP, but may be invoked from the command line in engineering development, manufacturing, or field service applications.
FILES	<p>./postrc Local POST configuration file</p> <p>\$HOME/.postrc User's default POST configuration file</p> <p>\$SSPVAR/etc/platform_name/\$SUNW_HOSTNAME/.postrc Hostname-specific default POST configuration file</p> <p>\$SSPVAR/etc/platform_name/blacklist Default blacklist file (see -X)</p> <p>\$SSPVAR/etc/platform_name/redlist Default redlist file (see -R)</p> <p>\$SSPVAR/adm/\$SUNW_HOSTNAME/post/postmdd.hhmm.log Default log file (see -g)</p> <p>\$SSPVAR/adm/\$SUNW_HOSTNAME/xfstatemdd.hhmm.ss Default dump file (see -D)</p> <p>\$SSPVAR/adm/\$SUNW_HOSTNAME/hpost.lock POST lock file</p> <p>\$SSPOPT/release/Ultra-Enterprise-10000/*/*/hostobjs/*.elf Path to download (host-resident) POST executable files.</p>
ENVIRONMENT	The environment variable <code>SUNW_HOSTNAME</code> must be set to the name of the domain.
DIAGNOSTICS	An exit status in the range 0 to 63, inclusive, indicates successful configuration. The exact value is the number of the processor whose bootbus sram contains the POST-to-OBP handoff structures that describe the configuration. Values outside the range 0 to 63 indicate that the system was not configured. (Those values outside the range have been codified for use by Sun Microsystems, and the information is described in a restricted-use header file. However, the -e option will provide a description of any value.)
SEE ALSO	obp_helper(1M) , redx(1M) , blacklist(4) , postrc(4) , redlist(4)

NAME	machine_server – multi-purpose server
SYNOPSIS	machine_server
DESCRIPTION	<p>Caution: Do not execute this daemon manually. It is automatically invoked by the SSP startup script and periodically monitored for re-start.</p> <p>The machine_server daemon performs the following functions:</p> <ul style="list-style-type: none">• Services TCP port registration requests from netcon_server(1M) and UDP port registration requests from the Enterprise 10000 SNMP agent, snmpd(1M).• Fields netcon_server(1M) and snmpd(1M) port lookup requests from various SSP client programs and returns the port number.• Ensures that error messages are routed to the proper messages file. <p>Each SSP can run only one instance of machine_server at a time.</p>
FILES	<p>\$SSPVAR/pid/machine_server.pid – process ID file</p> <p>/etc/services – reserved port specification</p>
SEE ALSO	netcon_server(1M) , snmpd(1M)

NAME	netcon – network console
SYNOPSIS	netcon [-f -l -g]
DESCRIPTION	<p>The netcon command creates a remote connection to the domain host console program, making the SSP window in which the command is executed a Console Window for the specified domain. See also netcontool(1M), a menu-driven program that executes netcon.</p> <p>Many Domain Console Windows (also called <i>console sessions</i>) can be open simultaneously on systems throughout the network, and all can read corresponding domain host output. But only one at a time can have write permission for a particular domain. Write permission is in either Unlocked or Locked mode.</p> <p>Unlocked Write permission is not very secure, as it is taken away if another console session is started via netcon -g, netcon -l or netcon -f, or if ~@, ~& or ~* is executed in another Domain Console Window. (Tilde commands are described in the USAGE section, below.)</p> <p>Locked Write permission is more secure. It can be taken away only if another console session is opened via netcon -f, or if ~* is executed in another Domain Console Window. In both cases, the new console session is an Exclusive Session, and all other sessions are killed.</p> <p>If you execute netcon with no options at a time when no other Domain Console windows are running for that domain, your session comes up with Unlocked Write permission. If you do so when one or more other sessions are running, your Domain Console Window comes up in Read Only mode, regardless of the permission settings of the other sessions.</p> <p>netcon can utilize either the standard network interface or the JTAG interface for Domain Console Window communication. You can manually toggle between these interfaces via the tilde-equals (~=) command. Doing so is useful if the network becomes inoperable, in which case netcon console sessions hang.</p> <p>Note that automatic Domain Console Window resizing is not supported across the JTAG interface, so input/output performance is slower than it is over the network interface.</p>
OPTIONS	<p>netcon executes with only one option at a time. If you specify more than one option, it runs with the option that carries the highest precedence, as follows: -f, -l, then -g.</p> <p>-f (Force option) Open a Domain Console Window with Locked Write permission, terminate all other open sessions, and prevent new sessions from being opened. This option starts Exclusive Session mode. Use it only when you need exclusive use of the console; e.g., for a private debugging session.</p> <p>Note: To restore multiple-session mode, either release the lock (via ~) or terminate the netcon -f session (via ~.). See USAGE, below.</p> <p>-g (Grab option) Open a Domain Console Window with Unlocked Write permission. If another session has Unlocked Write permission, the new Domain Console Window takes it away. If another session has Locked permission, this</p>

request is denied and a read-only session is started.

- l (Lock option) Open a Domain Console Window with Locked Write permission. If another session has Unlocked Write permission, the new Domain Console Window takes it away. If another session has Locked permission, this request is denied and a read-only session is started. See NOTES, below.

USAGE

In a Domain Console Window, a tilde (~) that appears as the first character of a line is interpreted as an escape signal that directs **netcon** to perform some special action, as follows:

- ~# Break to OBP or **kadb**
- ~. Disconnect and exit the **netcon** session.
- ~@ Acquire Unlocked Write permission; see -g.
- ~^ Release write permission.
- ~? Show status of all open console sessions and the communication path currently in use.
- ~= Toggle the communication path between the network and JTAG interfaces. You can use ~= only in Private mode (via ~*).
- ~& Acquire Locked Write permission; see -l. You may issue this signal during a read-only or Unlocked Write session.
- ~* Acquire Locked Write permission, terminate all other open sessions, and prevent new sessions from being opened; see -f. To restore multiple-session mode, either release the lock or terminate this session.

NOTES

If you use a **kill -9** command to terminate a **netcon** console session, the window or terminal in which the **netcon** command was executed goes into raw mode, and appears hung. To escape this condition, type ^j, then **stty sane**, then ^j.

In the Domain Console Window, **vi(1)** runs properly and the escape sequences (tilde commands) work as intended **only** if the environment variable **TERM** has the same setting as that of the Netcon Window. For example, in the window in which the **netcon** command was run, **TERM** is set to **xterm**, **TERM** in the Domain Console Window must be set to **xterm**, too.

ENVIRONMENT

The environment variable **SUNW_HOSTNAME** must be set to the name of the domain.

SEE ALSO

netcontool(1M), in the *Ultra Enterprise 10000 SSP Reference Manual*
cvcd(1M) in the *Solaris Reference Manual for SMCC-Specific Software*
boot(1M) in *man Pages(1M): System Administration Commands of the SunOS Reference Manual*

NAME	netcon_server – network console server daemon
SYNOPSIS	netcon_server -p <i>boot_proc</i> netcon_server -r
DESCRIPTION	<p>Caution: This daemon is executed by bringup(1M). Do not execute it on the command line.</p> <p>netcon_server manages communications between the various SSP Console Windows (also called netcon connect sessions) and the specified boot processor of the corresponding domains specified by each SSP Window's SUNW_HOSTNAME environment variable.</p> <p>When the domain is up, netcon_server acts as a relay between the various Domain Console Windows and the cvcd(1M) daemon running on the domain side. When the domain is down, it is a relay between the Domain Console Windows and OBP.</p>
OPTIONS	<p>-p <i>boot_proc</i> Use the specified boot processor.</p> <p>-r Restart netcon_server, obtaining the domain boot processor from the snmpd(1M) daemon. Execute netcon_server -r only when netcon_server has died and the host is either up or at the OBP prompt.</p>
ENVIRONMENT	The environment variable SUNW_HOSTNAME must be set to the name of the domain.
SEE ALSO	bringup (1M), ssp_startup (1M), netcon (1M), thermcal_config (1M) in the <i>Ultra Enterprise 10000 SSP Reference Manual</i> cvcd (1M) in the <i>Solaris Reference Manual for SMCC-Specific Software</i>

NAME	netcontool – network console tool						
SYNOPSIS	netcontool						
DESCRIPTION	<p>netcontool is a GUI-driven interface to the netcon(1M) command. It accepts configuration information necessary for console connection to the domain specified by the SSP's <code>SUNW_HOSTNAME</code> environment variable, makes that connection, and lets you press buttons that correspond to the escape sequences recognized by the Netcon program. These sequences are described in netcon(1M).</p> <p>When you execute the netcontool command, the Domain Console Window is displayed with the following buttons enabled:</p> <table border="0"> <tr> <td style="padding-right: 20px;">Exit</td> <td>Press to exit netcontool.</td> </tr> <tr> <td>Configure</td> <td>Press to display the Console Configuration dialog box (described below).</td> </tr> <tr> <td>Connect</td> <td>Press to begin the Netcon session. If more configuration information is required before the connection can be made, a message to that effect is displayed. In this case, press the <code>Configure</code> button.</td> </tr> </table> <p>The Console Configuration dialog box, which is displayed when you select <code>Configure</code>, lets you specify the following information:</p> <p>Terminal Type Press the <code>Xterm</code>, <code>Shell Toolf1 Command ToolF1</code> button. Note that, in the Domain Console Window, vi(1) runs properly and the escape sequences (tilde commands) work as intended only if the terminal type specified here is the same as the <code>TERM</code> environment variable of the Domain Console Window. For example, if <code>TERM</code> for the Domain Console Window is xterm, it must be xterm (shown as <code>Xterm</code>) here. The default is <code>Xterm</code>.</p> <p>Session Type Press the <code>Read Only Session</code>, <code>Unlocked Write (netcon -g)</code>, <code>Locked Write (netcon -l)</code> or <code>Exclusive Session (netcon -f)</code> button.</p> <p>NOTE: The default setting is <code>Read Only</code>. However, your new session comes up this way only if at least one other session is already running; if yours is the first console session to be started, it comes up in <code>Unlocked Write</code> mode, even if you selected the <code>Read Only</code> button.</p> <p>When you click the <code>Done</code> button, the <code>Connect</code> button in the window becomes available, and you can press it to start the session. If you have not supplied sufficient configuration information, netcontool displays an error message that states the problem.</p>	Exit	Press to exit netcontool .	Configure	Press to display the Console Configuration dialog box (described below).	Connect	Press to begin the Netcon session. If more configuration information is required before the connection can be made, a message to that effect is displayed. In this case, press the <code>Configure</code> button.
Exit	Press to exit netcontool .						
Configure	Press to display the Console Configuration dialog box (described below).						
Connect	Press to begin the Netcon session. If more configuration information is required before the connection can be made, a message to that effect is displayed. In this case, press the <code>Configure</code> button.						

When you press `Connect`, **netcontool** executes the **netcon(1M)** program, the Domain Console Window appears in the specified terminal type, and all buttons in the **netcontool** Window except `Configure` and `Connect` become available. These buttons correspond to the escape sequences described in the **netcon(1M)** man page. The escape sequences cannot be entered from the keyboard while **netcontool** is in use.

The Domain Console Window acts independently of the **netcontool** Window during window-management operations.

ENVIRONMENT

The environment variable `SUNW_HOSTNAME` must be set to the name of the domain.

SEE ALSO

netcon(1M)

NAME	obp_helper – download OpenBoot to system memory
SYNOPSIS	obp_helper [-eivqr] [-o <i>filename</i>] [-d <i>filename</i>] [-m <i>boot_proc</i>] [-A {on off}] [-D {on off}] [<i>boot-arguments</i>]
DESCRIPTION	<p>Note: obp_helper is normally executed by the bringup(1M) script, not on the command line. You may execute it on the command line only as obp_helper -e or, under certain conditions, obp_helper -r.</p> <p>obp_helper provides an environment in which OpenBoot can run. It then downloads OpenBoot and provides time-of-day and EEPROM simulation services to it.</p> <p>obp_helper executes until OpenBoot exits or a bringup(1M) or sys_reset(1M) is executed.</p>
OPTIONS	<p>-e Display the current settings of EEPROM options alterable by obp_helper.</p> <p>-i Invalidate the boot arguments in EEPROM.</p> <p>-v Execute in verbose mode.</p> <p>-q Execute in quiet mode.</p> <p>-r Restart obp_helper. Execute obp_helper -r only if OpenBoot is already executing on the system, but obp_helper has died or otherwise disappeared.</p> <p>-o <i>filename</i> Download the specified file instead of the standard OpenBoot executable.</p> <p>-d <i>filename</i> Download the specified file, not the standard download_helper executable.</p> <p>-m <i>boot_proc</i> Make the processor selected by <i>boot_proc</i> the boot processor.</p> <p>-A [on off] Enable (on) or disable (off) OpenBoot auto-boot mode. The -A option has the same effect as a setenv auto-boot? [true false] command to OpenBoot; it alters the state of the auto-boot? flag in the OpenBoot simulated EEPROM. When auto-boot is enabled, the bringup(1M) command brings up the system completely, using the appropriate boot disk as determined by other OBP variables. When auto-boot is disabled, bringup(1M) completes in such a manner that the OBP prompt (OK) is displayed on the netcon(1M) Window.</p> <p>-D [on off] Enable (on) or disable (off) OpenBoot diagnostic mode. This option has the same effect as the setenv diag-switch? [true false] command to OpenBoot; it alters the state of the diag-switch? flag in the OpenBoot simulated EEPROM.</p> <p><i>boot-arguments</i> Pass boot arguments verbatim to the OpenBoot boot command. You can specify standard OpenBoot device aliases such as disk and net. These arguments affect the current boot only; subsequent boot commands use the standard OpenBoot</p>

boot-device and *boot-file* arguments.

ENVIRONMENT

The environment variable SUNW_HOSTNAME must be set to the name of the domain.

SEE ALSO

bringup(1M) in the *Ultra Enterprise 10000 SSP Reference Manual*

boot(1M) in *man Pages(1M): System Administration Commands of the SunOS Reference Manual*

NAME	power – control power
SYNOPSIS	<p>power</p> <p>power -v [-all] [-sb <i>sb_list</i>] [-cb 0 1] [-csb <i>csb_list</i>] [-p <i>p_list</i>] [-ps <i>ps_list</i>] [-d -q]</p> <p>power -on [-all] [-sb <i>sb_list</i>] [-csb <i>csb_list</i>] [-p <i>p_list</i>] [-d -q]</p> <p>power [-f] -off [-all] [-cb 0 1] [-csb <i>csb_list</i>] [-sb <i>sb_list</i>] [-p <i>p_list</i>]</p> <p>power -off -ps <i>ps_list</i> [-d] (Service Providers Only)</p> <p>power -m</p> <p>power -m <i>margin_list</i> -sb <i>sb_list</i> [-d -q] (Service Providers Only)</p> <p>power -m <i>margin_list</i> -s {<i>sb</i> <i>csb</i>} [-d -q] (Service Providers Only)</p> <p>power -B -off [-d -q]</p>
DESCRIPTION	<p>The power command lets you view and control certain aspects of the Enterprise 10000 system's power supplies and I/O cabinets. You can use it to power on and off the power supplies of individual boards or I/O cabinets, and to view or set their voltage margins for over-voltage/under-voltage monitoring.</p> <p>When used with no options, power displays the status of all 48-volt power supplies, I/O cabinet power supplies, control board and centerplane support board power supplies, and all the individual system board power supplies. See EXAMPLES, below.</p> <p>The power status of the centerplane supports boards and the system boards is displayed as follows:</p> <pre>Centerplane:1 //average voltage// 5.0VDC HK: 5.086099V 5.0VDC HK: 5.041999V 3.3VDC HK: 3.494873V 3.3VDC Vdd: 3.302002V 3.3VDC Vdd: 3.299561V 3.3VDC Vdd: 3.300781V System Board:0 //average voltage// 3.3VDC Vdd: 3.281250V 5.0VDC HK: 5.039549V 3.3VDC HK: 3.424072V Vdd Core: 3.341064V 5.0VDC Vcc: 5.015049V</pre> <p>where:</p>

- 5.0VDC and 3.3VDC in the first column are the nominal voltage for each power supply. VDC means Voltage Direct Current. In the centerplane listing 5.0VDC HK is repeated twice and 3.3VDC Vdd is repeated three times, indicating that the voltage 5.0VDC HK is measured at two different locations and 3.3VDC Vdd is measured at three.

In the system board listing, the value of *Vdd Core* depends on the type of processor installed. This value can be between 2.5VDC and 3.7VDC, inclusive. JTAG accesses an analog-to-digital converter to read the resistor on the processor module to determine the actual value.

- HK means HouseKeeping power. This power is on whenever the 48-volt power is being supplied to the board.
- Vdd is a common acronym for +3.3 volt DC power.
- Vcc is a common acronym for +5.0 volt DC power.
- The values in the second column are the actual voltage readings provided by the analog-to-digital converter accessed via JTAG.

Note: When housekeeping power is applied to the machine, the power supplies on the control boards are turned on automatically. The system boards and centerplane support boards are powered on following the execution of the **power** command.

You cannot power off a system board within a domain that is a member of an Inter-Domain Network (IDN); you must first use **domain_unlink(1M)** to unlink such a domain. (IDN is supported on Ultra Enterprise 10000 servers running Solaris 2.6 or later.)

OPTIONS

See the **SYNOPSIS** line, above, for acceptable option combinations.

- B** –**off** Turn off power to the entire Enterprise 10000 host cabinet, and remotely controlled I/O cabinets. To restore power you must manually turn on the switches (up to four per cabinet) on the AC input modules that feed the 48-volt power supplies.
- all** Turn on, turn off or validate power to all system boards, including centerplane support boards. If you specify –**all** with –**sb**, –**csb** or both, –**all** takes precedence.
- cb** **0** | **1** Turn off or validate power to the power supplies for the specified control board, either **0** (rear) or **1** (front). Note that an active control board can turn off only a non-active control board for removal; the **power** command does not turn them both off.
- csb** *csb_list* Turn on, turn off or validate power to the power supplies for the specified centerplane support boards, where *csb_list* is a space-separated list of integers, each either **0** (rear) or **1** (front).

Note: When –**csb** is specified, the **power** command does not control housekeeping power on the centerplane support board.

- d** (Debug Mode) Display verbose trace messages. **-d** and **-q** are mutually exclusive.
- on** Turn on the system boards, including centerplane support boards, that belong to the domain specified by the `SUNW_HOSTNAME` environment variable. See also the options **-sb**, **-csb** and **-all**.
power -on turns on the specified board's power supplies, then queries the system to determine whether it has a sufficient amount of power. If so, those power supplies remain on; if not, **power** turns them off again and displays a message.
- off** or **-f -off** Turn off the individual power supplies of the centerplane support boards and the system boards that belong to the domain specified by the `SUNW_HOSTNAME` environment variable. See also the options **-sb**, **-csb**, **-cb**, **-p**, **-ps**, and **-all**.
power -off turns off the specified board's power supplies, but only if affected domains are not running the operating system. If an affected domain is running the operating system, **power** displays a message to that effect and does **not** turn off the power. This process gives you the opportunity to gracefully shut down the domain before turning off its power. To immediately turn off power to the domain, overriding this protective feature, use **-f -off**.
- p p_list** Turn on, turn off or validate power to the power supplies for the specified remotely controlled AC sequencer and its attached peripherals. *p_list* represents a space-separated list of integers, 0 to 4, inclusive, that refer to the switches (remote power control units) on the host that control the power distribution units for the peripherals. For more information, service providers can see the *Ultra Enterprise 10000 System Overview*, a printed document that is part of the service document set.
- ps ps_list - For use by service providers only**
Turn off or validate power to the specified 48-volt power supplies, where *ps_list* is one or more integers that represent the 48-volt power supplies - 0 to 7, inclusive - to be validated or disabled. The command **power -off -ps ps_list** displays the following message:
Warning: This command will disable *x* 48-volt power supplies, leaving *y* supplies left for the *z* physically present system boards. Continue? (y/n)
where:
x is the number of 48-volt power supplies to be disabled
y is the number of 48-volt power supplies to be left enabled
z is the number of system boards physically present in the system
Warning: Powering off too many 48-volt power supplies may crash the system. Use the information displayed in the warning

message and the chart below to determine whether turning off the specified power supplies is safe.

1 sys bd needs 3 ps	9 sys bds need 6 ps
2 sys bds need 3 ps	10 sys bds need 6 ps
3 sys bds need 3 ps	11 sys bds need 7 ps
4 sys bds need 4 ps	12 sys bds need 7 ps
5 sys bds need 4 ps	13 sys bds need 7 ps
6 sys bds need 5 ps	14 sys bds need 8 ps
7 sys bds need 5 ps	15 sys bds need 8 ps
8 sys bds need 5 ps	16 sys bds need 8 ps

-q (Quiet Mode) Inhibit any traffic to standard out. **-q** and **-d** are mutually exclusive.

-sb sb_list Turn on, turn off or validate power to the power supplies for the specified system boards. *sb_list* represents a space-separated list of integers, 0 to 15, inclusive, that refer to system board numbers. This option is also used for margining; see **-m**.

Note: When **-sb** is specified, the **power** command does not control housekeeping power on the system board. Also, you cannot power off the power supply of a system board that is part of a domain.

-v (Validate Mode) Inspect the individual power supplies of system boards and centerplane support boards that belong to the domain specified by the `SUNW_HOSTNAME` environment variable to determine whether they are currently enabled.

The **-v** option is intended for use only by scripts. It generates a 0 exit code if all the target devices are powered up. Note that **-v** merely inspects the power control bits; it does not check voltages.

You can use **-v** with **-sb** or **-csb**, or with **-p** to specify the devices to be validated.

-m Display the current margin values saved in the `ssp_resource(4)` file.

-m margin_list -s sb | csb – For use by service providers only

-m margin_list -sb sb_list – For use by service providers only

The **power -m margin_list -s sb | csb** command sets, in the `ssp_resource(4)` file, the values specified in *margin_list* for all system boards or centerplane support boards. The values take effect when the boards are next powered on.

power -m margin_list -sb sb_list immediately margins the power supplies for the system boards specified in *sb_list*.

Warning: Margining power supplies more than +/- 5 percent may cause damage to the hardware.

In both cases (**power -s** and **power -sb**), specify *margin_list* as a space-separated list of elements in one of the following forms:

supply.+margin
supply.margin (same as +)
supply.-margin

where *margin* is an integer between 1 and 5, inclusive, that represents the percentage of margin the supply voltage should be adjusted from nominal, and *supply* is a keyword – **Vcc**, **Vdd** or **Vcore** – that represent system board or centerplane support board voltages as follows:

Vcc, 5 volts
 Vdd, 3.3 volts
 Vcore 2.5 to 3.7 volts

Note that Vcore is displayed as `vdd Core` in **power** command output. Vdd Core is a processor's internal voltage power supply. The target voltage depends on the type of processor modules installed.

Note that the two forms of this command use margin levels differently. Immediate margining uses the margin to adjust the *current* power level by the specified margin percentage. Automatic margining uses the margin to adjust the *nominal* voltages by the specified margin percentage.

EXAMPLES

power -on -sb 0 2

Apply power to power supplies on system boards 0 and 2.

power -off

Turn off power supplies to all system boards in the domain specified by the `SUNW_HOSTNAME` environment variable.

power -m Vcc.+2 Vdd.-2 Vcore.4 -s sb

Change the margin voltage value for all system boards as follows: increase Vcc by 2 percent, decrease Vdd by 2 percent, and increase Vcore by 4 percent. Note that this change in margining will take effect when the system boards are next powered on.

power -m Vcc.+3 Vdd.+3 Vcore.3 -sb 5 6 7

Increment by 3 percent the target values of Vcc, Vdd and Vcore supplies on system boards 5, 6 and 7. The change occurs immediately, while these system boards remain on.

power -p 2 3 -on

Apply power to the peripherals remotely controlled by remote power control units (or switches) 2 and 3 on the host.

power -off -ps 2 3

Turn off 48-volt power supplies 2 and 3.

NAME	redx – remote emulation debugger
SYNOPSIS	<p>redx [-chnlq?] [<i>file</i> [<i>arg</i> ...]]</p> <p>redx [-q] -x <i>redx_interpreter_cmd</i> ...</p>
DESCRIPTION	<p>WARNING: Only your service provider should execute this command except during software installation and updates. If installation instructions provided by Sun Microsystems tell you to use this command, do so exactly as instructed. Improper use can cause catastrophic operating system failure.</p> <p>redx is a debug and maintenance support program for the Enterprise 10000 system. It is associated with the POST program, but is generally useful for other low-level hardware and firmware debugging.</p> <p>A command interpreter, redx reads commands interactively, from script files, or when used with the -x option, from the invoking command line. It features extensive on-line help. To access this help from within the program, type help or ?, and redx lists available command names and explains the other help facilities.</p> <p>At start-up redx reads the optional start-up script, .redxrc, if it is present in the current directory. If redx does not find it in the current directory, it looks in the user's home directory. If redx cannot find the script in either directory, or if the -n option is specified, the script is not used.</p>
OPTIONS	<p>Dash arguments can be grouped, as in -qn, or issued separately, such as -q -n. They can appear in any order, except that -x, when used, must be the last dash option. Numeric arguments are assumed to be decimal, or hex if prefaced with 0x or x.</p> <p>-c Do not use the curses library functions for input/output. The command history and scrollable output window functions are not available in this mode. -c makes redx usable when only simple tty connections to the SSP are available.</p> <p>-h Print help listing.</p> <p>-l Initiate in Local mode, with no access to JTAG. Use this option for parsing functions, or for safe, offline examination of hardware dump files.</p> <p>-n Do not read the startup file, .redxrc.</p> <p>-q Use quiet mode, suppressing normal screen output.</p> <p>-x redx_interpreter_cmd ... Execute the specified interpreter command (or commands) from the command line, then exit. Characters special to the shell must be escaped (see sh(1)). This option implies -n.</p> <p>-? Print help listing.</p>

EXAMPLES

redx -?

Display explanation of options.

redx -x ?

Display more information.

NAME	sigbcmd – send commands from SSP to domain
SYNOPSIS	sigbcmd [-vifr] [-t <i>retries</i>] [-p <i>proc</i>] sigbcmd [-svif] [-t <i>retries</i>] [-p <i>proc</i>] sigbcmd [-vif] [-t <i>retries</i>] [-p <i>proc</i>] <i>cmd</i>
DESCRIPTION	<p>Warning: Only authorized service providers should use this command. Improper use may disrupt activity on the domain, causing unexpected results and, possibly, catastrophic operating system failure.</p> <p>The SSP utility sigbcmd performs one of the following actions: sends the given command, <i>cmd</i>, to the Enterprise 10000 domain specified in the SUNW_HOSTNAME environment variable; displays status of a mailbox (-s); or resets the mailbox flag of a processor to empty (-r). If <i>cmd</i> expects a response, sigbcmd also retrieves that response from the domain.</p> <p>sigbcmd uses the signature block mailbox interface to communicate with the kernel for execution of commands. This mailbox resides in BBSRAM.</p>
OPTIONS	<p>sigbcmd executes only one command, then exits. Therefore, the -r, -s and <i>cmd</i> options are mutually exclusive. If you specify more than one at a time, only one is executed, in the following order of precedence: -r, -s, <i>cmd</i>.</p> <p><i>cmd</i> An ASCII name representing the command to send to the domain. Currently supported commands are obp (make domain enter OBP) and panic (make domain panic).</p> <p>-s Display the current status – the <i>flag</i>, <i>cmd</i>, and <i>data</i> fields – of the mailbox. Only the first 32 bytes (SIGB_MBOX_SIZE/2) of the data field are displayed.</p> <p>-v Execute in verbose mode, printing some debugging information. The default is terse mode.</p> <p>-i Query the user to confirm execution of the command. The default is no query.</p> <p>-f Force execution, overriding the mailbox flag. If -f is not set (the default) and something is detected in the mailbox (<i>i.e.</i>, flag != SIGB_MBOX_EMPTY), sigbcmd does not write out the mailbox command. -f makes it do so, regardless.</p> <p>-r Reset to empty the mailbox flag of the target processor specified by -p <i>proc</i>.</p> <p>-t <i>retries</i> If a response is expected, read the mailbox for that response the specified number of times, where <i>retries</i> is an integer, with one-second pauses between reads. If a response is never detected, an error message appears stating so. The default is 10 retries, which takes about 10 seconds.</p> <p>-p <i>proc</i> Make the specified processor the target of the given command. The default is to pick any present and available processor, usually the boot processor.</p>

EXAMPLES**sigbcmd -p 4 obp**

Make target domain enter OBP.

sigbcmd -i -p 4 panicSend a **domain panic** command to processor 4. Pause for acknowledgement from the user before actually sending the command.**ENVIRONMENT**

The environment variable SUNW_HOSTNAME must be set to the name of the domain.

NOTES

This command assumes the domain's operating system is coherent enough to receive the mailbox command (via NMI level 15 interrupt).

Be careful: this utility does not check for permissions.

NAME	snmpd – SNMP proxy agent for Enterprise 10000 platform
SYNOPSIS	snmpd [-p <i>port</i>]
DESCRIPTION	<p>Caution: Do not execute this daemon manually; it is automatically invoked. snmpd is a platform type server. An instance of snmpd is periodically invoked by the SSP startup script for each platform being managed and monitored for restart.</p> <p>snmpd is an SNMPv1 (Sample Network Management Protocol, Version 1) proxy agent for the Enterprise 10000 system. See the Enterprise 10000 MIB (Management Information Base) definition file, <i>SSSPETC/snmp/Ultra-Enterprise-10000.mib</i>, for a defined list of objects serviced by this agent.</p> <p>snmpd supports the SNMP requests set, get and getnext.</p> <p>Each instance of snmpd allocates its own communications port and registers with machine_server(1M). Other SNMP managers wishing to communicate with a specific SNMP agent must also use machine_server(1M) to find the port number assigned to the agent. Some number of UDP ports are reserved for this purpose in the <i>/etc/services</i> file.</p> <p>For Enterprise 10000 MIB information that is SSP-resident, snmpd relies on the file access daemon, fad(1M), to supply the information. Enterprise 10000 MIB information that corresponds to system resources is retrieved via the control board server, cbs(1M).</p>
OPTIONS	<p>-p <i>port</i> Use the specified UDP port for incoming SNMP requests. If -p is not specified, the first instance of snmpd allocates the standard SNMP port number, 161, for communication. Subsequent instances allocate arbitrary UDP ports.</p> <p>machine_server(1M) daemon for port assignment.</p>
FILES	<p><i>SSSPETC/snmp/agt/Ultra-Enterprise-10000.snmpd.cnf</i> – configuration file</p> <p><i>SSSPETC/snmp/Ultra-Enterprise-10000.mib</i> – Enterprise 10000 MIB definition file</p> <p><i>SSSPETC/snmp/Ultra-Enterprise-10000.dat</i> – Enterprise 10000 MIB data file</p> <p><i>SSSPVAR/pid/snmpd.platform_name.pid</i> – process ID file</p>
SEE ALSO	cbs (1M), fad (1M), machine_server (1M), straps (1M)

NAME	ssp_config – configure SSP control boards
SYNOPSIS	ssp_config [spare cb]
DESCRIPTION	<p>ssp_config sets up some SSP configuration files and provides tftpboot information for the control boards. It is automatically executed by the operating system start-up scripts the first time the SSP is booted after the SSP software is installed. You can also execute it manually when logged in as root.</p> <p>When executed by start-up scripts, ssp_config prompts for the name of the system (platform name), number of control boards in the system, the name of control board 0, and the name of control board 1. It asks for the primary control board, and attempts to automatically determine the IP addresses of the control boards via name services or local files. If it fails in this attempt, it prompts for them, too. The system will not fully initialize until ssp_config has the information it needs.</p> <p>When you are logged on as root and executing ssp_config manually, you must reboot the system immediately after ssp_config completes.</p>
OPTIONS	<p>spare Configure the spare SSP as the primary SSP. Use this option if your SSP fails and you have a secondary (spare) SSP or other SPARCstation available. For more information, see the <i>Ultra Enterprise 10000 System Hardware and Software Installation Guide</i>, which is part of the service documentation set delivered with your Ultra Enterprise 10000 system.</p> <p>cb Change the control board setup in the cb_config(4) file. Executing ssp_config cb initiates a series of prompts that enable you to change which control board is considered the primary control board, or to swap, add or delete a control board. You cannot change the platform name.</p>
FILES	<p>/etc/inetd.conf \$\$\$P\$TC/ssp_env.sh \$\$\$P\$VAR/.ssp_private/cb_config \$\$\$P\$VAR/etc/platform_name/edd.emc \$\$\$P\$VAR/etc/platform_name/edd.erc /tftpboot /.SSP_DEFAULTS</p>
SEE ALSO	bringup(1M) , cb_config(4)

NAME	ssp_startup – invoke SSP daemons
SYNOPSIS	ssp_startup
DESCRIPTION	<p>Note: Do not execute this command from the command line. The ssp_startup script is normally initiated automatically on each reboot by the SunOS command inittab(4).</p> <p>The ssp_startup script starts the following Enterprise 10000 system daemons in the proper order for the current configuration (the order may differ from that shown here, and is important):</p> <ul style="list-style-type: none">• edd(1M)• cbs(1M)• snmpd(1M)• machine_server(1M)• fad(1M)• straps(1M)• obp_helper(1M)• netcon_server(1M) <p>ssp_startup then monitors and restarts them, as necessary.</p> <p>After ssp_startup has completed, you can use domain_create(1M) to create the domain, then execute bringup(1M) to bring it up.</p>
FILES	<p>SSSPETC/ssp_startup.main – controls which programs are started during initial start-up</p> <p>SSSPETC/ssp_startup.restart_main – controls which programs are monitored and restarted if necessary</p>

NAME	ssp_unconfig – deconfigure the SSP
SYNOPSIS	ssp_unconfig
DESCRIPTION	<p>Note: ssp_unconfig is primarily used by Sun Microsystems just prior to shipping systems. Only customers who are very familiar with their Sun enterprise server should use it and, even then, only after consulting with their service advisor.</p> <p>ssp_unconfig is used to reconfigure the SSP in a new environment, or to change host names and IP addresses or platform names. ssp_unconfig prompts for the name of the domain for which the first eeprom.image was created by use of the serial ID. See the –s option of sys_id(1M).</p> <p>Note: Before executing this command make certain that all domains have been halted and removed via domain_remove(1M), and save the eeprom.image files. These files may not be restored to their corresponding domains when those domains are recreated.</p>
FILES	<p>\$SSPETC/ssp_env.sh \$SSPVAR/.ssp_private/cb_config \$SSPVAR/.ssp_private/domain_config \$SSPVAR/.ssp_private/domain_history \$SSPVAR/.ssp_private/ssp_to_domain_hosts \$SSPVAR/etc/\${PLATFORM_NAME}/edd.erc \$SSPVAR/etc/\${PLATFORM_NAME}/edd.emc /.SSP_DEFAULTS /tftpboot</p>
SEE ALSO	<p>ssp_config(1M), domain_remove(1M) in the <i>Ultra Enterprise 10000 SSP Reference Manual</i> halt(1M), shutdown(1M) in <i>man Pages(1M): System Administration Commands of the SunOS Reference Manual</i></p>

NAME	straps – SNMP trap sink server
SYNOPSIS	straps
DESCRIPTION	<p>Caution: Do not this server command manually. It is automatically invoked and monitored for restart by the SSP startup script.</p> <p>The straps server listens to the SNMP trap port for incoming trap messages and forwards received messages to all connected clients.</p> <p>The SNMP trap port is UDP port number 162. The port is a privileged port and can be opened only once; therefore, straps is necessary to serve multiple SNMP-manager-type applications on the SSP. Essentially all clients that need to receive SNMP traps must establish a connection to the straps server. They do so by connecting to an AF_UNIX domain stream socket and getting the SNMP trap packet in raw binary form.</p> <p>Each SSP can run only one instance of straps at a time.</p>
FILES	SSSPETC/snmp/straps – stream socket device file SSSPVAR/pid/straps.pid – process ID file
SEE ALSO	snmpd(1M)

NAME	sys_clock – display/change/set system clock frequencies
SYNOPSIS	<pre> sys_clock sys_clock -m [-f off] sys_clock [-i ic_freq] [-p proc_multiple] [-s {-f off}]</pre>
DESCRIPTION	<p>Caution: Do not execute use any command-line options when executing sys_clock on the command line unless you are an expert user. These options attempt to reset or change target frequencies, and such attempts can result in poor performance or a system crash.</p> <p>When executed with no command-line options, sys_clock displays both target and actual clock frequencies of the interconnect and JTAG, and the processor-to-interconnect clock ratio.</p> <p>The SSP package is distributed with a set of target clock frequencies intended to maximize performance of the Enterprise 10000 system. These target frequencies are maintained by the snmpd(1M) agent. Normally, centerplane support and system boards receive their clock values from one of the two possible control boards. The default source clock is the primary control board.</p> <p>sys_clock is executed automatically during system initialization.</p>
OPTIONS	<p>Note: When executed with its -i or -p options, sys_clock only changes the target settings maintained by the snmpd(1M) agent. These settings are passed to the Enterprise 10000 system the next time sys_clock -s is executed. To use these options to immediately change the settings of the Enterprise 10000 system, include -s on the same command line.</p> <p>-f off Set the clocks immediately. You can use -f off only with the -s or -m options. Normally, if any domain is running the operating system and you execute sys_clock with its -m or -s options, sys_clock displays a message to that effect without setting the clocks, giving you the opportunity to shut down the system gracefully, first. -f off sets the clocks immediately, overriding this feature.</p> <p>-i ic_freq Set the target interconnect clock frequency to the specified value, in hertz. Valid values range from 40000000 (40.0Mhz) to 120000000 (120.0 Mhz), inclusive.</p> <p>-m Program the boards with the number of the control board that is providing the system clock.</p> <p>-p proc_multiple Set the target processor-to-interconnect clock ratio to the specified values, which is one of the following: two-to-one, three-to-one or three-to-two.</p> <p>-s Like -m, Program the boards with the number of the control board that is providing the system clock; unlike -m, also set the hardware clock</p>

frequencies to the target frequencies maintained by the **snmpd(1M)** agent. **sys_clock -s** is executed automatically each time the Enterprise 10000 system is powered on.

EXAMPLES

Example 1: Display target and actual system clock frequencies.

```
% sys_clock
```

```
Current Clock Frequencies:
```

```
-----
```

```
Interconnect: 83.98 Mhz
```

```
Processor: 167.95 Mhz
```

```
JTAG: 5.00 Mhz
```

```
Targeted Clock Frequencies:
```

```
-----
```

```
Interconnect: 83.98 Mhz
```

```
Proc Clock Ratio: two-to-one
```

```
JTAG: 5.00 Mhz
```

Example 2: Modify target clock frequencies maintained by **snmpd(1M)** to the given values.

```
% sys_clock -i 83333333 -p two-to-one
```

Example 3: Set system clock frequencies on the Enterprise 10000 system.

```
% sys_clock -s
```

FILES

SSSPETC/snmp/Ultra-Enterprise-10000.mib – the Enterprise 10000 MIB definition file

SEE ALSO

cbs(1M), **snmpd(1M)**, **ssp_resource(4)**

NAME	sys_id – display or change system ID in SSP IDPROM
SYNOPSIS	sys_id [-dx] [-f filename] [-m yymmddhhmm] [-k key {-s serial_no -h host_id}]
DESCRIPTION	<p>sys_id displays or changes the host ID and Ethernet number on an Enterprise 10000 SSP's IDPROM and saves the changes in the EEPROM image file.</p> <p>The management and relationship of the system ID (machine serial numbers, host IDs, and Ethernet numbers) are kept in a file on the SSP as part of the IDPROM portion of the EEPROM image.</p> <p>The IDPROM portion of the EEPROM image is encrypted to prevent tampering. However, you can change the encrypted ID in the EEPROM image file for system ID modifications. To do so you must first obtain a <i>key</i> from Sun Microsystems. The key restricts you from changing the system ID to anything other than the designated machine serial number.</p> <p>To ensure uniqueness, Enterprise 10000 system host ID and Ethernet numbers are derived from the FOA/serial number. The Enterprise 10000 system's serial number comes from a block of numbers assigned to Sun Microsystems by SPARC International.</p>
SYSTEM ID	The sys_id command must be executed on a SSP where the host name and the <code>SSUNW_HOSTNAME</code> environment variable match the ones provided to Sun (when a key is requested). The existing host ID (obtained from the IDPROM) and the <code>-s serial_number</code> or <code>-h host-id</code> must also match.
OPTIONS	<p>When invoked with no arguments sys_id displays the host ID as specified in the EEPROM image file (located in the default location) in decimal format.</p> <p>-d Display all IDPROM fields. Any other option entered along with this option is ignored.</p> <p>-m yymmddhhmm Set the manufacturing date and time of the IDPROM as the specified year, month, day, hour and minute. If the manufacturing date is already set, -m overwrites it and displays a message showing the new date and time.</p> <p>-f filename Override the default location of the EEPROM image file and use <i>filename</i> as the alternate location and name. -f uses the specified location regardless of whether a read or write of the file is being performed. The default location and name of the EEPROM image is <code>SSSPVAR/etc/platform name/SSUNW_HOSTNAME/eprom.image</code></p> <p>-k key [-s serial_no -h host] Change the system ID. Before executing sys_id with this option you must obtain from Sun the <i>key</i>, which restricts where and how this command can be run. You must also specify either -s or -h.</p> <p>-s changes the serial number portion of the host ID entry in the IDPROM to the specified serial number. You must obtain this number from Sun. You can then</p>

specify the serial number in either decimal or hex format. To specify it in hex, use a prefix of **0x** or **0X**. Valid serial numbers are in the range **0xA65000-0xA65FFF**.

-h changes the host ID portion of the host ID entry in the IDPROM to the specified host ID number. You must obtain this number from Sun. You can then specify the host ID number in either decimal or hex format. To specify it in hex, use a prefix of **0x** or **0X**. Valid host ID numbers are in the range **0x80A65000-0x80A66FFF**.

The **-k** option is the only way to get or change IDs for extra domain hosts (multiple domains). Values between **0x80A66000** and **0x80A66FFF** must be used for extra domains.

-x Display the serial number in hex format.

NAME	sys_reset – reset the domain
SYNOPSIS	sys_reset [-F -f]
DESCRIPTION	<p>sys_reset resets all system boards that reside within the domain specified in the <code>SUNW_HOSTNAME</code> environment variable. If only one domain contains all system boards, sys_reset executes a full system reset, which resets the centerplane and all boards except the control board.</p> <p>This command does not do the requested reset if the domain you are attempting to reset is running the operating system.</p>
ENVIRONMENT	The environment variable <code>SUNW_HOSTNAME</code> must be set to the name of the domain.
OPTIONS	<p>-F or -f</p> <p>Force a system reset, even if the domain is running the operating system.</p>

NAME	thermal – read or write thermistor calibration
SYNOPSIS	thermal [-r -w] -b sb -n <i>sb_number</i> thermal [-r -w] -b cp -n <i>cp_number</i>
DESCRIPTION	<p>Warning: Do not execute this command. It is for exclusive use by Sun Engineering and authorized service providers.</p> <p>thermal reports the thermistor calibration values in the EEPROMs for ASICS on the system board and centerplane.</p>
OPTIONS	<p>-b sb -n <i>sb_number</i> Read or write to the specified system board, where <i>sb_number</i> is an integer 0 to 15, inclusive, that represents the system board number.</p> <p>-b cp -n <i>cp_number</i> Read or write to the specified centerplane, where <i>cp_number</i> is an integer, either 0 or 1, that represents the centerplane number.</p> <p>-r Read the thermistor calibration. This is the default.</p> <p>-w Write the thermistor calibration. Only Sun Microsystems personnel are authorized to use this option. To properly calibrate the board you must first power it off (see power(1M)), let it sit idle for at least 30 minutes, then run thermal -w. thermal powers the board back on when invoked to calibrate.</p>

NAME	thermcal_config – create SSP thermistor calibration data file
SYNOPSIS	thermcal_config thermcal_config -u thermcal_config -b sb -z n thermcal_config -b csb -z n
DESCRIPTION	<p>Caution: This command is executed automatically by edd(1M). It is not normally executed on the command line.</p> <p>When executed with no options, thermcal_config generates the SSP configuration file, thermcaldata.tcl. This TCL file contains the calibration values for non-precision, discrete thermistors used on ASIC components on system boards and centerplane halves. The SSP uses this file for ASIC temperature query.</p>
OPTIONS	<p>-u Update the existing thermcaldata.tcl file with any changes.</p> <p>-b sb -z n Update only the specified system board with any changes; ignore all other changes. <i>n</i> is the system board number, 0 to 15.</p> <p>-b csb -z n Update only the specified centerplane support board with any changes; ignore all other changes. <i>n</i> is the centerplane support board number, 0 or 1.</p>
FILES	\$SSPVAR/etc/platform name/cbobjs/thermcaldata.tcl
SEE ALSO	edd(1M)