Sun Enterprise 10000 Dynamic Reconfiguration Reference Manual

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Contents

CHAPTER

Maintenance Commands

NAME

Intro – Sun Enterprise 10000 DR administration

DESCRIPTION

This manual contains the commands, scripts, and programs executed in the Sun Enterprise 10000 Dynamic Reconfiguration (DR) environment only.

Note - Execute the commands contained in this manual only in the SSP environment.

LIST OF COMMANDS

`abort_attach`**(1M)**

abort DR attach operation

`abort_detach`**(1M)**

abort DR detach operation

`complete_attach`**(1M)**

complete DR attach operation

`complete_detach`**(1M)**

complete DR detach operation

`dr`**(1M)**

initiate dynamic reconfiguration shell

`dr.service`**(1M)**

abort DR attach system board operation

`dr_cmd_a_attach`**(1M)**

abort DR attach system board operation

`dr_cmd_a_detach`**(1M)**

abort DR detach system board operation

`dr_cmd_auto_config`**(1M)**

run Solaris reconfig sequence on target domain

dr_cmd_c_attach**(1M)**

complete DR attach system board operation

dr_cmd_c_detach**(1M)**

complete DR detach system board operation

dr_cmd_c_f_detach**(1M)**

force completion of DR detach system board operation

dr_cmd_cpu_info**(1M)**

show processors on a system board in Tcl encoding

dr_cmd_debug**(1M)**

toggle DR library-level debugging

dr_cmd_detach_allow**(1M)**

verify a system board can support DR detach

dr_cmd_dev_info**(1M)**

show devices on a system board in Tcl encoding

dr_cmd_drain**(1M)**

start memory drain on a system board

dr_cmd_drain_status**(1M)**

show state of in-progress memory drain

dr_cmd_eligible_attach**(1M)**

verify a system board is eligible for DR attach

dr_cmd_eligible_detach**(1M)**

verify a system board is eligible for DR detach

`dr_cmd_init_attach`**(1M)**

initiate DR attach system board operation

`dr_cmd_mem_info`**(1M)**

show memory configuration on a system board in Tcl encoding

`dr_cmd_obp_info`**(1M)**

show complete config on a system board in Tcl encoding

`dr_cmd_print_brd_info`**(1M)**

show board resource in tabular format

`dr_cmd_print_obp_info`**(1M)**

show system board info per OpenBoot(tm) PROM in tabular format

`dr_cmd_print_unsafe_info`**(1M)**

show the open unsafe devices in tabular format

`dr_cmd_unsafe_dev_info`**(1M)**

show the open unsafe devices in Tcl encoding

`drain`**(1M)**

start memory drain

`drshow`**(1M)**

display DR and board resource info

`drview`**(1M)**

DR Graphical User Interface

`init_attach`**(1M)**

initiate DR Attach operation

`reconfig`**(1M)**

initiate auto-configuration sequence

NAME

abort_attach – abort a DR Attach operation

SYNOPSIS

abort_attach *sb*

DESCRIPTION

Execute this command at the `dr`(1M) shell prompt to return the specified board to its original condition after completion of an `init_attach`(1M) operation. `abort_attach` leaves the board present, powered-on, and in no domain. It instructs the operating system running on the target domain specified by the SUNW_HOSTNAME environment variable to abandon the in-progress attach operation, then removes the board from the `domain_config` file and resets the Enterprise 10000 centerplane cluster mask registers and board domain mask registers. Refer to `domain_config`(4) in the *Sun Enterprise 10000 SSP Reference Manual*.

You should run `abort_attach` after `init_attach`(1M) has successfully completed, and instead of the `complete_attach`(1M) command.

If executing `abort_attach` fails to abort the operation, try repeating the attempt at a later time, or contact your service provider.

Note - This command is available only on the Sun Enterprise 10000 server.

OPTIONS

The following options are supported.

sb The board number (0 to 15) of the system board not to be attached

EXAMPLES

EXAMPLE 1 Using `abort_attach`(1M)

```
dr> abort_attach 5
Aborting attach board 5 to domain ts4.
Processors on board 5 reset.
Removing board 5 from domain_config file.
Board 5 placed into loopback.
Abort attach board successful.
dr>
```

DIAGNOSTICS

The following diagnostics are supported:

`Failed to abort board attachment`

Repeat the `abort_attach` command at a later time, or contact your service provider.

EXIT STATUS

If successful, `abort_attach` returns a 0 in the `dr_return` global variable; if not, it returns a 1, along with one or more diagnostic messages.

NOTES If DR detects a usage syntax error, it immediately aborts the `dr`(1M) command, displays the `dr`(1M) shell prompt, and leaves `dr_return` unmodified. See `dr`(1M).

SEE ALSO `dr`(1M), `init_attach`(1M)

NAME

abort_detach – abort a DR Detach operation

SYNOPSIS

abort_detach *sb*

DESCRIPTION

Execute this command at the `dr`(1M) shell prompt to abort an attempt to DR Detach a board. You can execute `abort_detach` after the board has been successfully executed, resources on the designated system board are once again available to the operating system.

Note - This command is available only on the Sun Enterprise 10000 server.

OPTIONS

The following options are supported.

sb The board number (0 to 15) of the system board not to be detached

EXAMPLES

EXAMPLE 1 Using `abort_detach`(1M)

```
dr> abort_detach 4
Aborting detach board 4
Returning board to domain_config.
Adding board 4 to domain_config file.
Abort board detach completed successfully.
```

DIAGNOSTICS

The following diagnostics are supported:

`FAILED to restore domain_config file`

`Retry the ABORT board detach at a later time`

The attempt to restore the board number to the target domain board list in the `domain_config`(4) file (refer to the man page in the *Sun Enterprise 10000 SSP 3.3 Reference Manual*) has failed. This may be a temporary condition, so try the `abort_detach` again at a later time.

`Failed to abort board detach`

The operating system on the target domain was unable to restore the board to full operation. This may be a temporary condition, so try the `abort_detach` again at a later time.

EXIT STATUS

If successful, `abort_detach` returns a 0 in the `dr_return` global variable; if not, it returns a 1, along with one or more diagnostic messages.

NOTES

If DR detects a usage syntax error, it immediately aborts the `dr`(1M) command, displays the `dr`(1M) shell prompt, and leaves `dr_return` unmodified. See `dr`(1M).

SEE ALSO `complete_attach`(1M), `dr`(1M), `drain`(1M)

NAME

complete_attach – complete a DR Attach operation

SYNOPSIS

complete_attach *sb*

DESCRIPTION

Execute this command at the `dr`(1M) shell prompt to complete an attempt to DR Attach a board after successful execution of the of the `init_attach`(1M) command. `complete_attach` causes the operating system running on the target domain to dynamically add the resources (processors, memory, and I/O devices) from the specified board to the running system. If a problem that prevents attachment of any device present on the board occurs, that problem is logged in the system message buffer of the target domain. To display a list of the devices that were successfully attached, execute the `drshow`(1M) command to display the current system configuration for the board.

Note - This command is available only on the Sun Enterprise 10000 server.

OPTIONS

The following options are supported.

sb The board number (0 to 15) of the system board to be attached to the target domain.

EXAMPLES

EXAMPLE 1 Using `complete_detach`(1M)

```
dr> complete_attach 5
Completing attach for board 5
Board attachment completed successfully.
```

DIAGNOSTICS

The following diagnostics are supported:

`Failed during final state transition`

The operation failed during the final stage of attachment. Check that the DR daemon is still running on the target domain, and that the network is operational. To recover from the failure, repeat the `complete_attach` operation or execute an `abort_attach`(1M).

`Failed to complete attach board`

The operating system on the target domain was unable to attach the board. Repeat the `complete_attach` operation at a later time or execute the `abort_attach`(1M) command.

EXIT STATUS

If successful, `complete_attach` returns a 0 in the `dr_return` global variable; if not, it returns a 1, along with one or more diagnostic messages.

NOTES

If DR detects a usage syntax error, it immediately aborts the `dr`(1M) command, displays the `dr`(1M) shell prompt, and leaves `dr_return` unmodified. See `dr`(1M).

SEE ALSO

`dr`(1M), `drshow`(1M), `init_attach`(1M)

NAME

complete_detach – complete a DR detach operation

SYNOPSIS

complete_detach *sb* [force]

DESCRIPTION

Execute this command at the `dr`(1M) shell prompt to complete an attempt to DR Detach a board. The `drain`(1M) must have been previously executed and the drain operation must have completed before `complete_detach` can proceed. You can use the `drshow`(1M) command to check the status of the domain operation.

A board can be detached only after all use of its devices has ceased. DR automatically terminates the use of memory and network devices and, in almost all cases, processors; but you must terminate use of the board's I/O devices. You can use the `drshow`(1M) command to list the devices in use on the board.

If the detaching board contains non-pageable kernel or OBP memory, the domain is quiesced during the `complete_detach` operation. The quiesce operation may fail due to *forcible* conditions. Refer to the *Sun Enterprise 10000 Dynamic Reconfiguration User Guide* for a description of such conditions. You can use the `force` argument to force the quiesce in such situations.

Note - This command is available only on the Sun Enterprise 10000 server.

OPTIONS

The following options are supported.

sb	The board number (0 to 15) of the system board to be detached
`force`	Force the domain quiesce operation. Refer to the *Sun Enterprise 10000 Dynamic Reconfiguration User Guide* for a description of such conditions. You can use the `force` argument to force the quiesce in such situations.

EXAMPLES

EXAMPLE 1 Using `complete_detach`(1M)

```
dr> complete_detach 5
Completing detach of board 5.
Operating System has detached the board.
Processors on board 5 reset.
Board 5 placed into loopback.
Board detachment completed successfully.
```

DIAGNOSTICS

The following diagnostics are supported:

`Cannot COMPLETE detach until drain completes`

The drain operation is still in-progress. Use drshow(1M) to monitor the drain. After it has completed, repeat the complete_detach command.

```
Board detachment failed
```

```
Retry the COMPLETE or ABORT the operation
```

A condition in the operating system on the domain prevented the detach from completing. Retry the operation at a later time, or use abort_detach(1M) to abort the detach.

EXIT STATUS

If successful, complete_detach returns a 0 in the dr_return global variable; if not, it returns a 1, along with one or more diagnostic messages.

NOTES

If DR detects a usage syntax error, it immediately aborts the dr(1M) command, displays the dr(1M) shell prompt, and leaves dr_return unmodified. See dr(1M).

SEE ALSO

abort_detach(1M), dr(1M), drain(1M), drshow(1M)

NAME

dr – initiate dynamic reconfiguration shell

SYNOPSIS

dr

DESCRIPTION

The `dr` command initiates the Dynamic Reconfiguration (DR) shell, a Tcl application (see NOTES, below) with DR command extensions. You can use the `dr` shell to logically attach or detach a system board to or from a Sun Enterprise 10000 domain from the command line or by using a script.

Note - Whenever possible, use the DR GUI in Hostview to execute Dynamic Reconfiguration operations. Use the `dr` shell when you cannot run Hostview; for example, if you need to run DR over a dial-up connection. For more information, see the *Sun Enterprise 10000 Dynamic Reconfiguration User Guide* and `hostview`(1M) in the *Sun Enterprise 10000 SSP 3.3 Reference Manual*.

When executed on the command line, `dr` connects to the domain specified by the SUNW_HOSTNAME environment variable. After this connection is established, `dr` displays the `dr>` prompt, which accepts the DR commands.

To see the list of DR commands if you not using AnswerBook2, execute `man Intro` on the SSP while logged in as user ssp.

Note - This command is available only on the Sun Enterprise 10000 server.

You can quit the `dr` shell at any time by typing `exit` or `Control-d`.

`Caution:` Do not execute any of the DR commands that begin with `dr_cmd_`; these are low-level commands that are for use only by authorized service personnel under special circumstances, as described in `dr.service`.

To minimize the risk of unintended DR operations, start this shell only when you are ready to execute DR commands and exit it as soon as you are done.

The DR commands return error status in the global Tcl variable `dr_return`. Normally, Tcl commands return both output and status together, which can be confusing and difficult to parse from within scripts. You can, however, execute the DR command `set dr_return` to display `dr_return` after executing each DR command, to determine command success or failure. Though, under most circumstances, the diagnostic messages output by the `dr` shell clearly indicate success or failure.

Note - Type `help` at the `dr` shell prompt (`dr>`) to access DR quick-reference help guide.

EXAMPLES

EXAMPLE 1 Using dr(1M)

The following example performs a DR Attach of Board 2 to the domain named "e100001". After complete_attach(1M) has successfully completed dr displays the result code stored in dr_return

```
e100001-ssp% domain_switch e100001
e100001-ssp% dr
Checking environment...
Initializing SSP SNMP MIB...
Establishing communication with DR daemon...
e100001: System Status - Summary

BOARD #: 2 3 5 6 physically present.
BOARD #: 0 1 4 being used by the system.

dr> init_attach 2
Initiate attaching board 2

phase init_reset: Initial system resets...

phase jtag_integ: JTAG probe and integrity test...
phase mem_probe: Memory dimm probe...
phase jtag_bbsram: JTAG basic test of bootbus sram...
phase procl: Initial processor module tests...
phase pc/cic_reg: PC and CIC register tests...
phase dtag: CIC DTAG tests...
phase mem: MC register and memory tests...
phase procmem: Processor vs. memory tests...
phase xcall: Interprocessor interrupt tests...
phase io: I/O controller tests...
Skipping phase ecc: Proc ecc vs. memory tests...
phase final_config: Final configuration...
Creating OBP handoff structures...
Configured in 3F with 3 processors, 0 SBus cards, 1024 MBytes
memory.
Boot processor is 4.0 = 8
POST execution time 1:23
hpost is complete.
/opt/SUNWssp/bin/obp_helper
Master cpu is 8
Slave cpus initialization:
Slave cpus initialization OK
board debut utility complete.

Board attachment initiated successfully.

Ready to COMPLETE board attachment.

dr> complete_attach 2
Completing attach for board 2
Board attachment completed successfully.
dr> set dr_return
0
dr> exit
e100001-ssp%
```

NOTES

Tcl (Tool command language) is a simple scripting language forr controlling and extending applications. You do not need Tcl knowledge to use the `dr` shell.

As a Tcl application, `dr` checks for certain types of syntax errors and, if it finds one, aborts without executing the `dr` shell command. For example, if you specify an argument with a command that does not require one, `dr` prints a usage error message and aborts. `dr` updates `dr_return` only upon completion of a `dr` command. If the command does not complete, as in our example above, `dr` does not update `dr_return`.

SEE ALSO

Sun Enterprise 10000 Dynamic Reconfiguration User Guide

Sun Enterprise Server AIternate Pathing 2.3 User Guide

Sun Enterprise 10000 SSP 3.3 User Guide

`domain_switch`(1M), `hostview`(1M) in the *Sun Enterprise 10000 SSP 3.3 Reference Manual*

`dr`(7) in *man pages section 7: Device and Network Interfaces*

`add_drv`(1M), `drvconfig`(1M), `devlinks`(1M), `disks`(1M), `inetd`(1M), `ports`(1M), `prtconf`(1M), `tapes`(1M) in *man pages section 1M: System Administration Commands*

`syslog`(3C) in *man pages section 3: Basic Library Functions*

NAME

dr.service – low-level DR commands for service providers

DESCRIPTION

The low-level commands described here, which begin with `dr_cmd`, are available only in the DR shell and are for use by service providers only. Service providers should use them only when they need a finer level of control to debug failing DR operations, or when they cannot access the DR GUI.

The DR shell provides commands that directly map to `libdr.so` function calls. Executing this command set gives the caller a finer level of control over DR operations, but introduces additional risk of error due to fewer safeguards.

Note that DR operations can fail to be denied by the operating system for numerous reasons. Often, specific user action is required to complete a DR sequence. For this reason, Sun cautions against the use of automated DR scripts. The Hostview interface (refer to `hostview`(1M) in *Sun Enterprise 10000 SSP 3.3 Reference Manual*) is the preferred method of performing DR operations. Use the `dr`(1M) shell when the GUI-based Hostview application is unavailable.

Note - This command is available only on the Sun Enterprise 10000 server.

CAUTION

Customers should not use these low-level commands, but should access DR through the DR GUI, as described in the *Sun Enterprise 10000 Dynamic Reconfiguration User Guide*, or by using the high-level DR commands (those without the `dr_cmd` prefix) described in this reference manual.

SHELL COMMANDS

The low-level shell commands are those that begin with `dr_cmd`. See `Intro`(1M).

EXIT STATUS

The DR shell low-level command set generally returns an exit code in the `dr_return` global variable. Upon return from each of the DR commands, this variable can be tested for success or failure.

Note - Tcl parsing errors prevent DR commands from running which, in turn, leaves `dr_return` uninitialized. In such cases, the `dr_return` error code is meaningless. See `dr`(1M) for more information concerning return codes.

NAME

dr_cmd_a_attach – abort DR attach system board operation

SYNOPSIS

dr_cmd_a_attach *sb*

CAUTION

Do not use this command, which runs in the DR shell; it is included here only for completeness. Instead, use `abort_attach`(1M), which performs the same functions, but with the added security of safeguards and checks.

DESCRIPTION

If `abort_attach`(1M) were unavailable for some reason, you could run `dr_cmd_init_attach`(1M) and before the board has been completely attached by using the `dr_cmd_c_attach`(1M). `dr_cmd_a_attach` returns the board to the state it was in prior to the `dr_cmd_init_attach`(1M) operation; that is, present, powered-on, and in no domain.

`dr_cmd_a_attach` instructs the operating system running on the target domain to abandon the in-progress attach operation, removes the system board from the `domain_config` file, and resets the shared memory mask registers and board domain mask registers on the centerplane.

Some conditions that are transparent to the user may cause an abort failure. Therefore, if `dr_cmd_a_attach` fails to complete the abort successfully, try executing it again at a later time.

Note - This command is available only on the Sun Enterprise 10000 server.

OPTIONS

The following options are supported.

sb The system board number (0 to 15) for the abort attach operation

DIAGNOSTICS

See DIAGNOSTICS on `abort_attach`(1M).

EXIT STATUS

If `abort_attach`(1M) succeeds it returns a 0 result code in the `dr_return` global variable. If it fails, it returns a 1 and displays diagnostic messages.

Note - Tcl parsing errors prevent DR commands from running which, in turn, leaves `dr_return` uninitialized. In such cases, the `dr_return` error code is meaningless. See `dr`(1M) for more information concerning return codes.

SEE ALSO

`dr`(1M), `dr_cmd_init_attach`(1M), `dr_cmd_c_attach`(1M)

NAME

dr_cmd_a_detach – abort DR detach system board operation

SYNOPSIS

dr_cmd_a_detach *sb*

CAUTION

Do not use this command, which runs in the DR shell; it is included here only for completeness. Instead, use `abort_attach`(1M), which performs the same functions, but with the added security of safeguards and checks.

DESCRIPTION

You can run `dr_cmd_a_detach` after draining a system board by using `dr_cmd_drain`(1M) , but before that board has been completely detached.

Note - This command is available only on the Sun Enterprise 10000 server.

OPTIONS

The following options are supported:

sb The board number (0 to 15) of the system board whose detach is being aborted.

DIAGNOSTICS

See DIAGNOSTICS in `abort_detach`(1M).

EXIT STATUS

If `dr_cmd_a_detach` succeeds it returns a 0 result code in the `dr_return` global variable. If it fails, it returns a 1 and displays diagnostic messages.

Note - Tcl parsing errors prevent DR commands from running which, in turn, leaves `dr_return` uninitialized. In such cases, the `dr_return` error code is meaningless. See `dr`(1M) for more information concerning return codes.

SEE ALSO

`dr`(1M), `dr_cmd_drain`(1M)

NAME

dr_cmd_auto_config – run Solaris reconfig sequence on target domain

SYNOPSIS

dr_cmd_auto_config

CAUTION

Do not use this command, use `reconfig`(1M) instead. Only authorized service providers should use `dr_cmd_auto_config`, which runs in the DR shell, and only when they cannot use `reconfig`(1M). Performing this operation may cause device files to be remapped and known devices to be renamed.

Note - As of the Solaris 8 GA release, manual reconfiguration is not needed. A new DDI subsystem, `devfsadm`, completes all of the reconfiguration tasks.

DESCRIPTION

The system administrator would normally run `dr_cmd_auto_config` after a new system board has been attached to a running domain to make the devices on the boards available immediately. The automatic configuration of the Solaris operating environment consists of the following commands, in the order shown:

`drvconfig`(1M), `devlinks`(1M), `disks`(1M), and `tapes`(1M).

Note - This command is available only on the Sun Enterprise 10000 server.

DIAGNOSTICS

See DIAGNOSTICS in the `reconfig`(1M) man page.

EXIT STATUS

If `dr_cmd_auto_config` succeeds it returns a 0 result code in the `dr_return` global variable. If it fails, it returns a 1.

Note - Tcl parsing errors prevent DR commands from running which, in turn, leaves `dr_return` uninitialized. In such cases, the `dr_return` error code is meaningless. See `dr`(1M) for more information concerning return codes.

SEE ALSO

`reconfig`(1M) in this reference manual

`drvconfig`(1M), `devlinks`(1M), `disks`(1M), `dr_daemon`(1M), `ports`(1M), `tapes`(1M) in *man pages section 1M: System Administration Commands*

NAME

dr_cmd_c_attach – complete DR attach system board operation

SYNOPSIS

dr_cmd_c_attach *sb*

CAUTION

Do not use this command, which runs in the DR shell; it is included here only for completeness, and is dangerous. Instead, use `complete_attach`(1M), which performs the same functions, but with the added security of safeguards and checks.

DESCRIPTION

`dr_cmd_c_attach` completes the DR attach board operation started by `dr_cmd_init_attach`(1M). The designated system board should already have been successfully Init Attached via `dr_cmd_init_attach`(1M). The complete attach operation causes the operating system on the target domain to dynamically add the resources from this system board (processors, memory, and I/O devices) to the running system. If a problem occurs, preventing attachment of any device present on the board, the problem is logged in the system message buffer of the target domain.

Note - This command is available only on the Sun Enterprise 10000 server.

OPTIONS

The following options are supported.

sb The board number (0 to 15) of the system board being attached

DIAGNOSTICS

See DIAGNOSTICS on the `complete_attach`(1M) man page.

EXIT STATUS

If `dr_cmd_c_attach` succeeds it returns a 0 result code in the `dr_return` global variable. If it fails, it returns a 1 and displays diagnostic messages.

Note - Tcl parsing errors prevent DR commands from running which, in turn, leaves `dr_return` uninitialized. In such cases, the `dr_return` error code is meaningless. See `dr`(1M) for more information concerning return codes.

SEE ALSO

`dr`(1M), `dr_cmd_init_attach`(1M)

NAME

dr_cmd_c_detach – complete DR detach system board operation

SYNOPSIS

dr_cmd_c_detach *sb*

CAUTION

Do not use this command, which runs in the DR shell; it is included here only for completeness, and is dangerous. Instead, use `complete_detach`(1M), which performs the same functions, but with the added security of safeguards and checks.

DESCRIPTION

`dr_cmd_c_detach` completes a DR detach board operation. The designated system board should already have been drained via `dr_cmd_drain`(1M).

You can detach a system board only when none of its devices is in use. DR automatically terminates the use of memory, processors (in almost all cases), and network devices on the board. But the administrator must make certain that all use of the I/O devices has ceased. You can use `drshow`(1M) to list the devices in use on a given system board.

Note - This command is available only on the Sun Enterprise 10000 server.

OPTIONS

The following options are supported.

sb The board number (0 to 15) of the system board being detached

DIAGNOSTICS

See DIAGNOSTICS on `complete_detach`(1M).

EXIT STATUS

If `dr_cmd_c_attach` succeeds it returns a 0 result code in the `dr_return` global variable. If it fails, it returns a 1 and displays diagnostic messages.

Note - Tcl parsing errors prevent DR commands from running which, in turn, leaves `dr_return` uninitialized. In such cases, the `dr_return` error code is meaningless. See `dr`(1M) for more information concerning return codes.

SEE ALSO

`dr`(1M), `dr_cmd_drain`(1M)

Sun Enterprise 10000 SSP 3.3 User Guide

NAME

dr_cmd_c_f_detach – force completion of DR detach system board operation

SYNOPSIS

dr_cmd_c_f_detach *sb*

CAUTION

Do not use this command, which runs in the DR shell; it is included here only for completeness, and is dangerous. Instead, use `complete_detach`(1M), which performs the same functions, but with the added security of safeguards and checks.

DESCRIPTION

`dr_cmd_c_f_detach` completes a DR detach board operation, using a forcible domain quiesce. See the CAUTION, above. Use this command when you need to force the system to complete a detach operation, when the system board to be detached contains unsafe devices that are open, but not in use. Refer to the *Sun Enterprise 10000 Dynamic Reconfiguration User Guide* for more information about system quiesce and ways to increase the safety of this dangerous command.

Note - This command is available only on the Sun Enterprise 10000 server.

OPTIONS

The following options are supported.

sb The board number (0 to 15) of the system board to be detached

DIAGNOSTICS

See DIAGNOSTICS on the `complete_detach`(1M) man page.

EXIT STATUS

If `dr_cmd_c_f_detach` succeeds it returns a 0 result code in the `dr_return` global variable. If it fails, it returns a 1 and displays diagnostic messages.

Note - Tcl parsing errors prevent DR commands from running which, in turn, leaves `dr_return` uninitialized. In such cases, the `dr_return` error code is meaningless. See `dr`(1M) for more information concerning return codes.

SEE ALSO

`dr`(1M), `dr_cmd_drain`(1M)

Sun Enterprise 10000 SSP 3.3 User Guide

NAME

dr_cmd_cpu_info – show processors on a system board in Tcl encoding

SYNOPSIS

dr_cmd_cpu_info *sb*

CAUTION

This command, which runs in the DR shell, produces output in a form suitable for the `drview`(1M) application, not the interactive user.

DESCRIPTION

`dr_cmd_cpu_info` queries the target domain and produces a list of the processors attached to the specified system board. This list is returned in a Tcl format, and is used by the `drview`(1M) application.

Since the Tcl list is not readily accessible to an interactive user, you should use `drshow`(1M) instead to acquire processor information.

Note - This command is available only on the Sun Enterprise 10000 server.

OPTIONS

The following options are supported.

sb The board number (0 to 15) of the target system board

EXIT STATUS

If `dr_cmd_cpu_info` succeeds it returns a 0 result code in the `dr_return` global variable. If it fails, it returns a 1 and displays diagnostic messages.

Note - Tcl parsing errors prevent DR commands from running which, in turn, leaves `dr_return` uninitialized. In such cases, the `dr_return` error code is meaningless. See `dr`(1M) for more information concerning return codes.

SEE ALSO

`dr`(1M), `dr_cmd_mem_info`(1M), `dr_cmd_dev_info`(1M)

NAME

dr_cmd_debug – toggle DR library-level debugging

SYNOPSIS

dr_cmd_debug

CAUTION

Only authorized service providers should use this command, which runs in the DR shell.

DESCRIPTION

When switched on, `dr_cmd_debug` provides significantly more detailed information about DR operations performed by using `dr`(1M). `dr_cmd_debug` is set up as a toggle; execute it once to turn it on, and again to turn it off. Initially, it is set to 0, or off.

The service provider may find `dr_cmd_debug` very useful when diagnosing a DR-related failure. Activate debugging prior to executing any commands related to DR Attach or DR Detach.

Note - This command is available only on the Sun Enterprise 10000 server.

EXIT STATUS

`dr_cmd_debug` always returns a 0 character in the `dr_return` global Tcl variable.

SEE ALSO

`dr`(1M)

NAME

dr_cmd_detach_allow – verify a system board can support DR detach

SYNOPSIS

dr_cmd_detach_allow *sb*

CAUTION

Only authorized service providers should use this command, which runs in the DR shell.

DESCRIPTION

`dr_cmd_detach_allow` queries the operating system running on the target domain about any conditions that may prevent the system board from being successfully detach. If the board is not detachable, `dr_cmd_detach_allow` displays one or more diagnostic messages.

Note - This command is available only on the Sun Enterprise 10000 server.

OPTIONS

The following options are supported.

sb The board number (0 to 15) of the system board to be queried

EXIT STATUS

If `dr_cmd_detach_allow` succeeds it returns a 0 result code in the `dr_return` global variable. If it fails, it returns a 1.

SEE ALSO

`dr`(1M)

Sun Enterprise 10000 SSP 3.3 User Guide

NAME

dr_cmd_dev_info – show devices on a system board in Tcl list encoding

SYNOPSIS

dr_cmd_dev_info *sb*

DESCRIPTION

Note - This command, which runs in the DR shell, produces output in a form suitable for the `drview`(1M) application, not the interactive user. Use `drshow`(1M) instead to view device information.

`dr_cmd_dev_info` checks the target domain for peripheral devices attached to the specified system board and returns the information in a Tcl list encoding, which is used by the `drview`(1M) application.

Note - This command is available only on the Sun Enterprise 10000 server.

OPTIONS

The following options are supported.

sb The board number (0 to 15) of the target system board

EXIT STATUS

If `dr_cmd_dev_info` succeeds it returns a 0 result code in the `dr_return` global variable. If it fails, it returns a 1 and displays diagnosic messages.

Note - Tcl parsing errors prevent DR commands from running which, in turn, leaves `dr_return` uninitialized. In such cases, the `dr_return` error code is meaningless. See `dr`(1M) for more information concerning return codes.

SEE ALSO

`dr`(1M), `dr_cmd_cpu_info`(1M), `dr_cmd_mem_info`(1M)

NAME

dr_cmd_drain – start memory drain on a system board.

SYNOPSIS

dr_cmd_drain *sb*

CAUTION

This command, which runs in the DR shell, is dangerous; do not use it. It is included here only for completeness. Instead, use the `drain`(1M) command, which performs the same functions, but with the added security of safeguards and checks.

DESCRIPTION

`dr_cmd_drain` determines the best way to vacate memory physically located on the designated system board. It may simply flush the memory, or copy it to memory available on another system board in the same domain. If a suitable target memory for the memory copy is not available when the `dr_cmd_drain` command is invoked, the request is denied. If the unavailability is due to run-time conditions and system load, you should retry the `dr_cmd_drain` operation at a later time.

The `dr_cmd_drain` operation also removes the system board from the board list in the `domain_config`(4) file on the SSP. (Refer to the `domain_config`(4) man page in the *Sun Enterprise 10000 SSP 3.3 Reference Manual*.

`dr_cmd_drain` begins execution, then quickly exits. Use `drshow`(1M) to monitor its progress.

Note - This command is available only on the Sun Enterprise 10000 server.

OPTIONS

The following options are supported.

sb The board number (0 to 15) of the system board to be drained

DIAGNOSTICS

See DIAGNOSTICS on `drain`(1M).

EXIT STATUS

If `dr_cmd_drain` succeeds it returns a 0 result code in the `dr_return` global variable. If it fails, it returns a 1 and displays diagnosic messages.

Note - Tcl parsing errors prevent DR commands from running which, in turn, leaves `dr_return` uninitialized. In such cases, the `dr_return` error code is meaningless. See `dr`(1M) for more information concerning return codes.

SEE ALSO

`dr_cmd_mem_info`(1M)

Sun Enterprise 10000 SSP 3.3 User Guide

NAME

dr_cmd_drain_status – show state of in-progress memory drain.

SYNOPSIS

dr_cmd_drain_status *sb*

CAUTION

Only authorized service providers should use this command, which runs in the DR shell.

DESCRIPTION

Use `dr_cmd_drain_status` to monitor a drain-in-progress. It displays a table of current information about the drain. DR cannot complete a detach until all the memory on a system board has been successfully drained.

Note - This command is available only on the Sun Enterprise 10000 server.

OPTIONS

The following options are supported.

sb The board number (0 to 15) of the system board being drained

EXIT STATUS

If `dr_cmd_drain_status` succeeds it returns a 0 result code in the `dr_return` global variable. If it fails, it returns a 1.

Note - Tcl parsing errors prevent DR commands from running which, in turn, leaves `dr_return` uninitialized. In such cases, the `dr_return` error code is meaningless. See `dr`(1M) for more information concerning return codes.

SEE ALSO

`dr`(1M)

NAME

dr_cmd_eligible_attach – verify a system board is eligible for DR attach

SYNOPSIS

dr_cmd_eligible_attach *sb*

CAUTION

Only authorized service providers should use this command, which runs in the DR shell. Service providers: Be sure to run this eligibility check prior to initiating any DR attach activity when using the low-level DR shell command set. Initiating an attach operation on an ineligible board may cause a system failure.

DESCRIPTION

Use `dr_cmd_eligible_attach` to verify that a system board is eligible for an attach operation before using `dr_cmd_init_attach`(1M) to begin the Init Attach.

Note - This command is available only on the Sun Enterprise 10000 server.

OPTIONS

The following options are supported.

board The board number (0 to 15) of the system board to be checked

EXIT STATUS

`dr_cmd_eligible_attach` returns one of the following result codes to the `dr_return` global Tcl variable.

`y` The specified system board is eligible to be attached.

`n` The specified system board is not eligible to be attached. `dr_cmd_eligible_attach` sends additional information to `stdout`.

sb The specified system board is not eligible to be attached because system board *sb* (0 to 15), a different system board in the target domain, is in an intermediate DR Attach state. That DR Attach operation must be completed before you can initiate a DR operation on another board (such as the one specified).

Note - Tcl parsing errors prevent DR commands from running which, in turn, leaves `dr_return` uninitialized. In such cases, the `dr_return` error code is meaningless. See `dr`(1M) for more information concerning return codes.

SEE ALSO

`dr`(1M)

Sun Enterprise 10000 SSP 3.3 User Guide

NAME

dr_cmd_eligible_detach – verify a system board is eligible for DR detach

SYNOPSIS

dr_cmd_eligible_detach *sb*

CAUTION

Only authorized service providers should use this command, which runs in the DR shell. Service providers: Be sure to run this eligibility check prior to initiating any DR attach activity when using the low-level DR shell command set. Initiating an attach operation on an ineligible board may cause a system failure.

DESCRIPTION

Use `dr_cmd_eligible_detach` to verify that a system board is eligible for a detach operation before using `dr_cmd_drain`(1M) to begin a DR drain operation.

Note - This command is available only on the Sun Enterprise 10000 server.

OPTIONS

The following options are supported.

board The board number (0 to 15) of the system board to be checked

EXIT STATUS

`dr_cmd_eligible_detach` returns one of the following result codes to the `dr_return` global Tcl variable.

`y` The specified system board is eligible to be detached.

`n` The specified system board is not eligible to be detached. `dr_cmd_eligible_detach` sends additional information to stdout.

sb The specified system board is not eligible to be detached because system board *sb* (0 to 15), a different system board in the target domain, is in an intermediate DR Detach state. That DR Detach operation must be completed before you can initiate a DR operation on another board (such as the one specified).

Note - Tcl parsing errors prevent DR commands from running which, in turn, leaves `dr_return` uninitialized. In such cases, the `dr_return` error code is meaningless. See `dr`(1M) for more information concerning return codes.

SEE ALSO

`dr`(1M)

Sun Enterprise 10000 SSP 3.3 User Guide

NAME

dr_cmd_init_attach – initiate DR attach system board operation

SYNOPSIS

dr_cmd_init_attach *sb*

CAUTION

Do not use this command, which runs in the DR shell; it is dangerous, and is included here only for completeness. Instead, use `init_attach`(1M), which performs the same functions, but with the added security of safeguards and checks.

DESCRIPTION

`dr_cmd_init_attach` begins a DR attach board operation. DR does not screen the target domain for intermediate system boards as it does with the `init_attach`(1M) command and through Hostview.

`dr_cmd_init_attach` is a low-level command for use only by trained service personnel for diagnosing DR-related system problems. The designated system board should be present, powered-on, and currently in no domain. `dr_cmd_init_attach` diagnoses, then debuts the system board to the target domain specified in the SUNW_HOSTNAME environment variable.

`dr_cmd_init_attach` adds the system board to the system board list in the SSP `domain_config` file. (Refer to the `domain_config`(4) man page in the *Sun Enterprise 10000 SSP 3.3 Reference Manual*.) DR then prepares the resources (processors, memory, and I/O controllers) for attachment by the operating system, and the centerplane is reconfigured such that the board is visible to the target domain.

After `dr_cmd_init_attach` completes successfully, you can execute `dr_cmd_c_attach`(1M) to complete the attach operation, or `dr_cmd_a_attach`(1M) to abort it.

Note - This command is available only on the Sun Enterprise 10000 server.

OPTIONS

The following options are supported.

board The board number (0 to 15) of the system board to be attached

DIAGNOSTICS

See DIAGNOSTICS on the `init_attach`(1M) man page.

EXIT STATUS

If `dr_cmd_init_attach` succeeds it returns a 0 result code in the `dr_return` global variable. If it fails, it returns a 1 and displays diagnostic messages.

Note - Tcl parsing errors prevent DR commands from running which, in turn, leaves `dr_return` uninitialized. In such cases, the `dr_return` error code is meaningless. See `dr`(1M) for more information concerning return codes.

SEE ALSO *Sun Enterprise 10000 SSP 3.3 User Guide*

NAME

dr_cmd_mem_info – show memory config on a system board in Tcl encoding

SYNOPSIS

dr_cmd_mem_info *sb*

CAUTION

Do not use this command. It returns information in Tcl encoding, which is understood by the `drview`(1M) application, but is not intended for direct viewing by users. Instead, use the `drshow`(1M) command.

DESCRIPTION

`dr_cmd_mem_info` queries the target domain for memory attached to this system board, returning the information in a Tcl list encoding, which then is used by the `drview`(1M) application.

Note - This command is available only on the Sun Enterprise 10000 server.

OPTIONS

The following options are supported.

board The board number (0 to 15) of the system board to be checked

EXIT STATUS

If `dr_cmd_mem_info` succeeds it returns a 0 result code in the `dr_return` global variable. If it fails, it returns a 1 and displays diagnostic messages.

Note - Tcl parsing errors prevent DR commands from running which, in turn, leaves `dr_return` uninitialized. In such cases, the `dr_return` error code is meaningless. See `dr`(1M) for more information concerning return codes.

SEE ALSO

`dr`(1M)

NAME

dr_cmd_obp_info – show complete config of a system board in Tcl encoding

SYNOPSIS

dr_cmd_obp_info *sb*

CAUTION

Do not use this command, which runs in the DR shell; it displays information in Tcl encoding, which is understood by the `drview`(1M) application, but is not intended for direct viewing by the interactive user. Instead, use `drshow`(1M) to view this information.

DESCRIPTION

`dr_cmd_obp_info` displays the complete board configuration, including processors, memory and I/O devices, of a system board that has completed the Init Attached phase to a domain (that is, probed by OBP), but has not yet been completely attached.

Note - This command is available only on the Sun Enterprise 10000 server.

OPTIONS

The following options are supported.

board The board number (0 to 15) of the target system board

EXIT STATUS

If `dr_cmd_obp_info` succeeds it returns a 0 result code in the `dr_return` global variable. If it fails, it returns a 1 and displays diagnostic messages.

Note - Tcl parsing errors prevent DR commands from running which, in turn, leaves `dr_return` uninitialized. In such cases, the `dr_return` error code is meaningless. See `dr`(1M) for more information concerning return codes.

NAME

dr_cmd_print_brd_info – show board resource in tabular format

SYNOPSIS

dr_cmd_print_brd_info *sb flags*

CAUTION

Do not use this command, which runs in the DR shell; it is included here only for completeness. Instead, use `drshow`(1M), which presents the information in a more reabable format.

DESCRIPTION

`dr_cmd_print_brd_info` obtains configuration information about the specified attached system board. The *flags* option specifies the information this command is to display, in the form of a bitstring, as follows:

Flag	Value	Display
	1	Processor information
	2	Controller and peripheral information
	4	Memory configuration
	8	Memory cost information
	16	Memory drain status

You can obtain multiple displays by OR'ing (summing) the above decimal values. All displays are in a readable, tabular format.

Note - This command is available only on the Sun Enterprise 10000 server.

OPTIONS

The following options are supported.

sb The board number (0 to 15) of the target system board

flags A bitstring in decimal that represents the desired information

EXAMPLES

EXAMPLE 1 Displaying the Processor and Memory Configuration

To display the processor and memory configuration, use the following command.

```
dr> dr_cmd_print_brd_info 5
```

EXAMPLE 2 Displaying the Configuration Information

To display all configuration information, use the following command.

```
dr> dr_cmd_print_brd_info 31
```

EXIT STATUS

If `dr_cmd_print_brd_info` succeeds it returns a 0 result code in the `dr_return` global variable. If it fails, it returns a 1 and displays diagnostic messages.

Note - Tcl parsing errors prevent DR commands from running which, in turn, leaves `dr_return` uninitialized. In such cases, the `dr_return` error code is meaningless. See `dr`(1M) for more information concerning return codes.

NAME

dr_cmd_print_obp_info – show system board info per OpenBoot(tm) Prom in tabular format

SYNOPSIS

dr_cmd_print_obp_info *sb*

CAUTION

Do not use this command, which runs in the DR shell; it is included here only for completeness. Instead, use the `drshow`(1M) command, which presents the information in a more reabable format.

DESCRIPTION

`dr_cmd_print_obp_info` obtains configuration information from the OpenBoot PROM, then displays that information in a tabular format. Use this command to interrogate a system board that has passed the init attach stage, but has not yet passed complete attach stage.

Note - This command is available only on the Sun Enterprise 10000 server.

OPTIONS

The following options are supported.

sb The board number (0 to 15) of the target system board

EXIT STATUS

If `dr_cmd_print_obp_info` succeeds it returns a 0 result code in the `dr_return` global variable. If it fails, it returns a 1 and displays diagnostic messages.

Note - Tcl parsing errors prevent DR commands from running which, in turn, leaves `dr_return` uninitialized. In such cases, the `dr_return` error code is meaningless. See `dr`(1M) for more information concerning return codes.

NAME

dr_cmd_print_unsafe_info – show the open devices in tabular format

SYNOPSIS

dr_cmd_print_unsafe_info

CAUTION

Do not use this command, which runs in the DR shell; it is included here only for completeness. Instead, use `drshow`(1M), which presents the information in a more reabable format.

DESCRIPTION

`dr_cmd_print_unsafe_info` queries the target domain to determine if any unsafe peripheral devices are open. (Refer to the *Sun Enterprise 10000 Dynamic Reconfiguration User Guide* for more information concerning DR unsafe devices.) If it finds that any such devices are open, it sends that information to `stout`.

Note - This command is available only on the Sun Enterprise 10000 server.

If `dr_cmd_print_unsafe_info` succeeds it returns a 0 result code in the `dr_return` global variable. If it fails, it returns a 1 and displays diagnostic messages.

Note - Tcl parsing errors prevent DR commands from running which, in turn, leaves `dr_return` uninitialized. In such cases, the `dr_return` error code is meaningless. See `dr`(1M) for more information concerning return codes.

NAME

dr_cmd_unsafe_dev_info – show the open unsafe devices in TCL encoding

SYNOPSIS

dr_cmd_unsafe_dev_info

CAUTION

Do not use this command, which runs in the DR shell; it is included here only for completeness. Instead, use `drshow`(1M), which presents the information in a more reabable format.

DESCRIPTION

`dr_cmd_unsafe_dev_info` queries the target domain to determine if any unsafe peripheral devices are open. (Refer to the *Sun Enterprise 10000 Dynamic Reconfiguration User Guide* for more information concerning DR unsafe devices.) If it finds that any such devices are open, it returns that information in a Tcl list encoding, which is used by the `drview`(1M) application.

Note - This command is available only on the Sun Enterprise 10000 server.

If `dr_cmd_unsafe_dev_info` succeeds it returns a 0 result code in the `dr_return` global variable. If it fails, it returns a 1 and displays diagnostic messages.

Note - Tcl parsing errors prevent DR commands from running which, in turn, leaves `dr_return` uninitialized. In such cases, the `dr_return` error code is meaningless. See `dr`(1M) for more information concerning return codes.

NAME

drain – start memory drain

SYNOPSIS

drain *sb* [*wait*]

DESCRIPTION

The `drain` command, which you execute from the `dr`(1M) prompt, is the first of a two-step procedure for DR detaching a system board. The primary function of the `drain` command is to determine how the memory physically located on the designated board should be vacated. This memory may be simply flushed, or it may be copied to memory available on another system board in the same domain.

If a suitable target memory for the memory copy is not available when the drain command is invoked, the request is denied. If the unavailability is due to run-time conditions and system load, you can retry the drain operation at a later time.

The `drain` command starts the drain operation, and then returns. The drain may take several minutes to complete. You can execute `drshow` *sb* `DRAIN` to monitor its progress (see the `drshow`(1M) man page). Or, you can specify the `wait` option, and the `drain` returns only after the board has been fully drained, or `drain` detects an error. `drain` automatically displays the board status once before returning.

Note - This command is available only on the Sun Enterprise 10000 server.

OPTIONS

The following options are supported.

sb — The board number (0 to 15) of the system board to be drained

`wait` — Polls the DR daemon every 5 seconds and returns to the caller only after the drain completes. This option is useful when the drain is performed by a script. This option is case-insensitive.

EXAMPLES

EXAMPLE 1 Using `drain`(1M)

```
ts4-ssp% domain_switch ts4
ts4-ssp% dr
Checking environment...
Establishing Control Board Server connection...
Initializing SSP SNMP MIB...
Establishing communication with DR daemon...
                ts4: System Status - Summary

BOARD #: 1 3 4 5 being used by the system.


dr> drain 5
Removing board 5 from domain_config file.
```

```
Start draining board 5.
Board drain started. Retrieving System Info...

           Bound Processes for Board 5

cpu  user  sys  procs
---  ----  ---  -----
 20    0     1
 21    0     1
 22    0     1
 23    0     1

No active IO devices.

           Memory Drain for Board 5 - IN PROGRESS

Reduction          = 1024 Mbytes
Remaining in System    = 2048 MBytes
Percent Complete      = 0% (1048576 KBytes remaining)

Drain operation started at Sun Sep 15 22:50:57 1996
Current time            Sun Sep 15 22:50:57 1996
Memory Drain is in progress. When Drain has finished,
you may COMPLETE the board detach.
```

EXIT STATUS

Upon successful initiation of the drain, `drain` returns a 0 in the `dr_return` global variable; if the initiation fails, it returns a 1. If `wait` is specified, a 0 in the `dr_return` indicates that the drain (not just initiation of it) has completed successfully, and a 1 indicates that the drain has failed.

NOTES

If DR detects a usage syntax error, it immediately aborts the `dr`(1M) command, displays the `dr`(1M) shell prompt, and leaves `dr_return` unmodified. See `dr`(1M).

SEE ALSO

`dr`(1M) in this reference manual

`domain_switch`(1M) in the *Sun Enterprise 10000 SSP 3.3 Reference Manual*

NAME

drshow – display DR and board resource information

SYNOPSIS

drshow UNSAFE [*interval* |*count*]

drshow *sb* [*report_type*][*interval* |*count*]

drshow ALL [*report_type*][*interval* |*count*]

DESCRIPTION

`drshow` displays board-level and system-level resources and information about DR. It presents the displays in a tabular format.

`drshow` can sample at a specified interval (in seconds), for a given number of times. This polling capability is especially useful to monitor an in-progress drain operation.

Note - This command is available only on the Sun Enterprise 10000 server.

OPTIONS

The following options are supported.

UNSAFE — Displays all unsafe devices that are open throughout the domain.

sb — The board number (0 to 15) of the target domain

ALL — Reports the requested information for all active system boards in the domain. You can specify this keyword with one (and only one) on the following keywords. Note that all keyword arguments are case-insensitive.

`CPU` – Displays processor information for the board (default)

`DRAIN` – Displays the progress of any active drain operation

`IO` – Shows the devices attached to this board

`OBP` – Displays tthe board configuration as OBP sees it. The OBP display can be used on a board that has completed the init-attach phase, but has not yet been completely attached. The OBP display may not be as accurate as the CPU/MEM/IO displays for boards in use.

`MEM` – Displays the memory configuration of this board

interval — The frequency, in seconds, with which `drshow` is to repeat the display

count The number of times `drshow` is to repeat the display

EXAMPLES

EXAMPLE 1 Using `drshow`(1M)

```
dr> drshow 1 IO
                          I/O Bus Controllers and Devices for Board 1

------------------------------- I/O Bus 1 : Slot 0 : esp0 ----------------------

device     opens   name                          usage
------     -----   ----                          -----
sd0            0   /dev/dsk/c0t0d0s0
sd1           26   /dev/dsk/c0t1d0s0             /
               0   /dev/dsk/c0t1d0s1             swap, /tmp
               9   /dev/dsk/c0t1d0s3             /var
               1   /dev/dsk/c0t1d0s5             /opt
              18   /dev/dsk/c0t1d0s6             /usr
               1   /dev/dsk/c0t1d0s7             /export
sd2            0   /dev/dsk/c0t2d0s0
sd3            0   /dev/dsk/c0t3d0s1             swap, /tmp
               0   /dev/dsk/c0t3d0s7             /xfer

------------------------------- I/O Bus 1 : Slot 1 : qec0 ----------------------

device     opens   name                          usage
------     -----   ----                          -----
qe0                qe0                           ts4 (129:153:49:118)
qe1                qe1
qe2                qe2
qe3                qe3
```

NOTES

Exercise caution when using repeating displays. The only way to prematurely stop one is by hitting `Control-C`, which terminates the DR shell.

EXIT STATUS

`drshow` returns a character 0 result code in `dr_return`.

SEE ALSO

`dr`(1M)

Sun Enterprise 10000 Dynamic Reconfiguration User Guide

NAME

drview – DR Graphical User Interface

SYNOPSIS

drview

DESCRIPTION

`drview` is the graphical user interface for the Dynamic Reconfiguration feature. Do not invoke it directly; it is automatically initiated by Hostview. Refer to the `hostview`(1M) man page in the *Sun Enterprise 10000 SSP 3.3 Reference Manual*.

For more information about Hostview refer to the *Sun Enterprise 10000 SSP 3.3 User Guide*, and for more information about `drview`, refer to the *Sun Enterprise 10000 Dynamic Reconfiguration User Guide*.

Note - This command is available only on the Sun Enterprise 10000 server.

SEE ALSO

`hostview`(1M) in the *Sun Enterprise 10000 SSP 3.3 Reference Manual*

Sun Enterprise 10000 SSP 3.3 User Guide

NAME

init_attach – initiate a DR attach operation

SYNOPSIS

init_attach *sb*

DESCRIPTION

Execute this command at the `dr`(1M) shell prompt to begin a DR Attach operation. The system board to be attached must be present, powered-on, and currently not attached to a domain. It is diagnosed and debuted to the target domain specified by the SUNW_HOSTNAME environment variable. Upon completion of the `init_attach`, the resources (processors, memory, and I/O controllers) are prepared for attachment by the operating system. The board is added to the board list in the SSP `domain_config`(4) file, and the centerplane is reconfigured such that the board is visible to the target domain.

Upon successful completion of `init_attach` you can use `complete_attach`(1M) to complete the attach operation or `abort_attach`(1M) to abort it.

Note - This command is available only on the Sun Enterprise 10000 server.

OPTIONS

The following options are supported.

sb	The board number (0 to 15) of the system board to be attached

EXAMPLES

EXAMPLE 1 Using `init_attach`(1M)

```
ts4-ssp% domain_switch ts4
ts4-ssp% dr
Checking environment...
Establishing Control Board Server connection...
Initializing SSP SNMP MIB...
Establishing communication with DR daemon...
       ts4: System Status - Summary

BOARD #: 5 physically present.
BOARD #: 1 3 4 being used by the system.


dr> init_attach 5
Initiate attaching board 5 to domain ts4..
Adding board 5 to domain_config file.
/opt/SUNWssp/bin/hpost -H20,4
Opening SNMP server library...

Reading centerplane asics to obtain bus configuration...
Bus configuration established as 3F.
phase cplane_isolate: CP domain cluster mask clear...
phase init_reset: Initial system resets...
phase jtab_integ: JTAG probe and integrity test...
phase mem_probe: Memory dimm probe...
phase iom_probe: I/O module type probe...
phase jtag_bbsram: JTAG basic test of bootbus sram...
```

```
phase procl: Initial processor module tests...
phase pc/cic_reg: PC and CIC register tests...
phase dtag: CIC DTAG tests...
phase mem: MC register and memory tests...
phase io: I/O controller tests...
phase procmem2: Processor vs. memory II tests...
phase ibexit: Centerplane connection tests...
phase final_config: Final configuration...
Configuring in 3F with 4 processors, 2 SBus cards, 1024 MBytes memory.
Interconnect frequency is  83.273 MHz, from SNMP MIB.
Processor    frequency is 166.589 MHz, from SNMP MIB.
Boot processor is 5.0 = 20
POST (level=16, verbose=20, -H4,0020) execution time 3:50
hpost is complete.
obp_helper -H -m20
Board debut complete.
Reconfiguring domain mask registers.
Probing board resources.
Board attachment initiated successfully.

Ready to COMPLETE board attachment.

dr>
```

DIAGNOSTICS

The following diagnostics are supported.

`add_board_to_domain returns entry not found`

The target domain specified by the SUNW_HOSTNAME environment variable is not properly listed in the `domain_config`(4) file. Check the `domain_config`(4) file, then try the operation again at a later time.

`add_board_to_domain returns entry not found`
`Unable to locate domain` *target domain* `in domain_config file.`

DR was unable to locate an entry for the current target domain. Use the `domain_status`(1M) command to verify the contents of the `domain_config`(4) file. Refer to the *Sun Enterprise 10000 SSP 3.3 Reference Manual*.

`Board debut failed - return =` *value*

The debut utility has failed (refer to the `obp_helper`(1M) man page in the *Sun Enterprise 10000 SSP 3.3 Reference Manual*). Consult the SSP message files for information regarding the failure.

`Board` *brd* **is a member of a foreign hardware domain.**

The board you are trying to attach has been identified as a member of another domain on this platform, which prevents it from being attached to

the designated target domain. You must remove this board from the other domain before initiating an attach.

`Board` *brd* `is not eligible for attach`

One or more conditions is preventing this board from being attached to the target domain. The board must be physically present, powered on, and not a member of any domain to be eligible for attachment.

`Board may be black or red listed.`

If this board is blacklisted or redlisted, it cannot be attached. Check the `postrc`(1M) file for the location of the `blacklist`(1M) and `redlist`(4) files.

`DR Error: State for board` *brd* `cannot be determined.`

During initial domain contact an unexpected board condition was detected by `dr_daemon`(1M). (Refer to the `dr_daemon`(1M) man page in *man pages section 1M: System Administration Commands*.) Check the system log on the host for more information.

`Error executing` *command*

`dr`(1M) executed the indicated command, but it returned a failure indication. If the error message specifies a specific action you must take, do so, then retry the command. Otherwise, simply retry the `init_attach` operation at a later time. If that attempt fails, call your service provider.

`FAD error detected, retrying...`

A transient failure occurred during updating of the `domain_config`(4) file has been. `init_attach` will retry the operation. If all retries fail, consult the SSP messages files for more information.

`Failed to initiate board attachment`

The `init_attach` operation on the target domain has failed.

`Unable to execute` *command*

`dr`(1M) could not execute the indicated command. Check that the program file exists and is assigned the appropriate modes.

EXIT STATUS

If successful, `init_attach` returns a 0 in the `dr_return` global variable; if not, it returns a 1, along with one or more diagnostic messages.

NOTES

If DR detects a usage syntax error, it immediately aborts the `dr`(1M) command, displays the `dr`(1M) shell prompt, and leaves `dr_return` unmodified. See `dr`(1M).

SEE ALSO

`dr`(1M) in this reference manual

`blacklist`(4), `domain_config`(4), `domain_status`(1M), `domain_switch`(1M), `postrc`(4), `redlist`(4) in the *Sun Enterprise 10000 SSP 3.3 Reference Manual*

`dr_daemon`(1M) in the *man pages section 1M: System Administration Commands*

NAME

reconfig – initiate auto-configuration sequence

SYNOPSIS

reconfig

CAUTION

This command can remap device files and cause the renaming of known devices. Use it with extreme caution.

DESCRIPTION

Execute this command at the dr(1M) shell prompt after a new board has been attached to a running domain to make the devices immediately available for use.

Note - As of the Solaris 8 GA release, manual reconfiguration is not needed. A new DDI subsystem, devfsadm, completes all of the reconfiguration tasks.

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reconfig executes the standard Solaris configuration sequence in the target domain. This sequence consists of the following commands, shown here in the proper order: drvconfig(1M), devlinks(1M), disks(1M), ports(1M), and tapes(1M).

Note - This command is available only on the Sun Enterprise 10000 server.

EXAMPLES

EXAMPLE 1 Using reconfig(1M)

```
dr> reconfig
Reconfiguration of devices in progress...
Reconfiguration completed successfully.
```

DIAGNOSTICS

The following diagnostics are supported.

`Reconfiguration failed`

One or more of the reconfiguration commands failed. Check the /var/adm/messages file on the domain.

EXIT STATUS

reconfig returns a 0 in the dr_return global variable upon success, or a 1 upon failure.

NOTES

If DR detects a usage syntax error, it immediately aborts the dr(1M) command, displays the dr(1M) shell prompt, and leaves dr_return unmodified. See dr(1M).

SEE ALSO

dr(1M) in this reference manual

drvconfig(1M), devlinks(1M), disks(1M), ports(1M), tapes(1M) in *man pages section 1M: System Administration Commands*