

Commands to monitor (select) and deselect code

Command	Selects
monitor all	all routines and loops all blocks**
monitor <i>[path]:r_name...*</i>	specified routines and their loops all blocks in <i>r_name</i> **
monitor at <i>[path]:ln_#...</i>	routines and loops at specified lines basic blocks at specified lines**
monitor routine all	all routines
monitor routine <i>[path]:r_name...</i>	specified routines
monitor loop all	all loops
monitor loop in <i>[path]:r_name...</i>	loops in specified routines
monitor loop at <i>[path]:ln_#...</i>	loops at specified line numbers
monitor block all	all blocks**
monitor block in <i>[path]:r_name...</i>	blocks in specified routines**
monitor block at <i>[path]:ln_#...</i>	blocks at specified line numbers**
monitor pregon all	all parallel regions
monitor pregon in <i>[path]:r_name...</i>	p-regions in specified routines
monitor pregon at <i>[path]:ln_#...</i>	p-regions at specified line numbers
Command	Deselects
deselect all	all routines and loops all blocks**
deselect <i>[path]:r_name...</i>	specified routines and their loops all blocks in specified routines**
deselect at <i>[path]:ln_#...</i>	routines and loops at specified lines basic blocks at specified lines**
deselect routine all	all routines
deselect routine <i>[path]:r_name...</i>	specified routines
deselect loop all	all loops
deselect loop in <i>[path]:r_name...</i>	loops in specified routines
deselect loop at <i>[path]:ln_#...</i>	loops at specified line numbers
deselect block all	all blocks**
deselect block in <i>[path]:r_name...</i>	blocks in specified routines**
deselect block at <i>[path]:ln_#...</i>	blocks at specified line numbers**

Commands to analyze profile information***

Command	Function
analyze	displays routine- and loop-level profiles displays block-level profile**
analyze routine	displays routine-level profile
analyze loop <i>[r_name]</i>	displays loop-level profile
analyze block <i>[r_name]</i>	displays block-level profile**
analyze pregon <i>[r_name]</i>	displays parallel region profile

Commands to handle Performance Data Files

Command	Function
analyze <i>path</i>	changes input PDF to specified PDF
profile <i>path</i>	changes output PDF to specified PDF
profile	changes output PDF to <i>cpa.pdf</i>
status	displays data on current input PDF
status <i>path</i>	displays data on specified PDF

- * *path* is a UNIX path name (*[dir]/file_name*).
 ** For executables compiled with *-pab*.
 *** All analyze commands may be used with output redirection.

Commands to provide information

Command	Function
file	displays the name of current source file
file <i>f_name</i>	changes the current source file
help	displays all <i>CXpa</i> commands
help <i>command</i>	displays information for specified command
help keys	displays interface command keys
list	displays first 10 lines of current listing file** displays 10 additional lines**
list <i>ln_#</i>	displays 10 lines starting at <i>ln_#</i> **
list <i>lst_# lst_#</i>	displays lines in specified range**
list at <i>[path]:ln_#</i>	displays 10 lines starting at <i>ln_#</i> **
list at <i>[path]:lst_# lst_#</i>	displays lines in specified range**
list file <i>path*</i>	changes current listing file and lists the first 10 lines**
list file <i>path: ln_#</i>	displays 10 lines starting at <i>ln_#</i>
list file <i>path: lst_# lst_#</i>	displays lines in specified range
list <i>[path]:r_name</i>	displays specified routine
list monitors <i>[path]:r_name</i>	displays monitor points in routine
list monitors at <i>[path]:ln_#</i>	displays monitor points in next 10 lines starting at <i>ln_#</i> **
list monitors at <i>[path]:lst_# lst_#</i>	displays monitor points in specified range***

- * *path* is a UNIX path name (*[dir]/file_name*).
 ** These commands work with the current listing file.
 *** These commands work only with the current source file.

Commands to handle the directory list

Command	Function
use	displays directory list
use <i>dir...</i>	replace directory list with specified list
use add <i>dir...</i>	add specified directories to end of list

Loop Transformation Marks

Mark	Transformation
D	Distributed
Ds	Dynamic selection
Hs	Hoisted
I	Interchanged
V	Fully Vectorized
P	Parallel
PS	Parallel Stripmined
P/V	Parallel Vectorized
pV	Partially Vectorized
S	Scalar
SM	Stripmined Vector
UL	Uninsturmentable
Ur	Unrolled
Us	Unswitched



CONVEX Performance Analyzer Quick Reference

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Interface Commands

Editing the *CXpa* Command Line

To move the cursor on the command line:

Key	Command Name
CTRL-a	beginning-of-line
CTRL-e	end-of-line
CTRL-f	forward-char
CTRL-b	backward-char
ESC O	forward-word
ESC @	backward-word

To delete characters on the line:

CTRL-d	delete-char
DEL or CTRL-h	backward-kill-char

To kill and yank characters on the line:

CTRL-x	erase-line
CTRL-k	kill-line
ESC @	kill-word
ESC DEL or ESC @	backward-kill-word
CTRL-y	yank
ESC @	yank-previous

Kill places text into a buffer on the "kill ring." Yank pulls back the contents of the latest buffer on the kill ring. Yank-previous moves to the previous buffer on the kill ring before yanking text. It must be preceded by a yank or yank-previous.

To transpose words and characters:

CTRL-t	transpose-char
ESC @	transpose-words

To change the case of a word:

ESC @	capitalize-word
ESC O	downcase-word
ESC @	upcase-word

Other Interface Commands

To manipulate the command history list:

Key	Command Name
ESC @	previous-command
ESC @	subsequent-command

Miscellaneous:

ESC @	help-keys
CTRL-l	redraw-screen

Command Completion Mechanism

CXpa includes a mechanism for completing partial commands from the keyboard. These completion functions are bound to the following keys:

Key	Function
spacebar	Complete word if possible
CTRL-	List possible completions
TAB	Complete word and list possibilities

Invoking the Performance Analyzer

CXpa is invoked by the following command line

```
cpa [-x] |cmd_file...| [-nx] [-u] |dir...| [-f] obj_file|pdf_file|
```

where

-x	specifies a command file to be executed at startup.
<i>cmd_file</i>	is the name of an ASCII file containing a list of <i>CXpa</i> commands.
-nx	prevents the execution of the default command file, <i>.cpainit</i> .
-u	specifies a directory to be added to <i>CXpa</i> 's directory list.
<i>dir</i>	is a UNIX directory name.
-f	forces an executable to execute with fixed scheduling.
<i>obj_file</i>	is an executable compiled with <i>-pa</i> or <i>-pab</i> .
<i>pdf_file</i>	is a Performance Data File (PDF) created by a previous invocation of <i>CXpa</i> .

Compiling a program for *CXpa* profiling

In FORTRAN, use the following command line:

```
fc [options] -pa|-pab|-par [options] srcfiles [ld_options]
```

In Ada, use the following command line:

```
ada [options] -pa|-pab|-par [options] srcfiles [loader_options]
```

In C, use the following command line:

```
cc [options] -pa|-pab|-par [options] srcfiles [loader_options]
```

where

<i>options</i>	are any CONVEX FORTRAN/Ada/C compiler options except <i>-pa</i> or <i>-pab</i> .
-pa	creates a program instrumented for routine- and loop-level profiling.
-pab	creates a program instrumented for block-level profiling.
-par	creates a program instrumented for routine-level profiling only.
<i>srcfiles</i>	is a list of FORTRAN/Ada/C source files to be compiled.
<i>ld_options</i>	are any CONVEX FORTRAN/Ada/C loader options.

Commands for controlling program execution

To execute a program under *CXpa*

```
run arguments [<ipath> |>|&|opath]
```

where

arguments	is a list of arguments (if any) required by the user program.
<i>ipath</i>	is the UNIX path name of a file from which program input is to be read.
<i>opath</i>	is the UNIX path name of a file to which program output is to be written.
&	causes error messages to be written to <i>output_file</i> .

If no directory is specified in the path names, the current working directory is assumed.

To repeat the execution of a program

```
rerun arguments [<ipath> |>|&|opath]
```

where

arguments	need not be specified (previous arguments are used by default).
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To end a *CXpa* session

```
quit
```

To interrupt a running program under *CXpa*

```
CTRL-c
```

To suspend a running program and the *CXpa* session

```
CTRL-z
```

Command to execute command files

Command	Function
source <i>path</i>	read the specified command file and execute it (<i>path</i> is the UNIX path name of a command file).