Simple Thread Monitor

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About This Manual

This is the Runtime Library Release 2.4 version of the *Simple Thread Monitor* manual.

It describes the procedure by which IOP thread states can be monitored.

Changes Since Last Release

None

Related Documentation

Note: the Developer Support Web site posts current developments regarding the Libraries and also provides notice of future documentation releases and upgrades.

Typographic Conventions

Certain Typographic Conventions are used throughout this manual to clarify the meaning of the text:

Convention	Meaning
`courier`	Indicates literal program code.
italic	Indicates names of arguments and structure members (in structure/function definitions only).
medium bold	Indicates data types and structure/function names (in structure/function definitions only).
blue	Indicates a hyperlink.

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Library Overview

The boot ROM (flash mode) of the DTL-T10000 holds a simple monitor program for IOP threads.

IOP thread states can be monitored using the procedure described below.

Startup

dsicons is executed for TTY9 as follows:

```
% dsicons 9
```

Running dsicons in another window for TTYK is useful (this is not required).

```
% dsicons k
```

Next, use dsidb or dsistart to run 'rom:THMON'.

Using dsidb:

```
dsidb R> mstart rom:THMON
```

Using dsistart:

```
% dsistart rom:THMON
```

As a result, the following will be displayed in the window where dsicons initially starts. Information about threads can be displayed by entering commands.

```
========= simple thread monitor program =========
        help command is 'help'
         >
```

Usage

A '>' prompt will be displayed in the dsicons 9 window and the commands shown below can be entered. Typing '/' by itself and pressing the RETURN key will repeat the previously entered command.

help -- Help command

Displays a list of commands along with short descriptions.

thlist -- Display list of threads

Displays a list of all threads.

Adding the -v option will also display the name of the module to which the thread entry function belongs and an estimated value (not precise) of free space on the stack.

Threads in DORMANT state will normally not be displayed, but specifying the -a option will allow DORMANT threads to be displayed as well.

By specifying a thread ID as an argument, information about a specific thread can be displayed.

rdlist -- Display list of READY threads

Displays a list of threads in READY state.

Adding the -v option will also display the name of the module to which the thread entry function belongs and an estimated value (not precise) of free space on the stack.

sllist -- Display list of SLEEP threads

Displays a list of threads in WAIT state using SleepThread.

Adding the -v option will also display the name of the module to which the thread entry function belongs and an estimated value (not precise) of free space on the stack.

dllist -- Display list of DELAY threads

Displays a list of threads in WAIT state using DelayThread.

Adding the -v option will also display the name of the module to which the thread entry function belongs and an estimated value (not precise) of free space on the stack.

rtlist -- Display thread operating time total/percentage

Displays the total CPU usage time of active threads (if no arguments are specified).

Adding the -v option will also display the name of the module to which the thread entry function belongs.

Currently, the total time is not very accurate, and should only be used as a rough estimate because it does not include interrupt processing time.

If a count is specified as an argument, the CPU usage rate for an active thread can be displayed every second. The command will exit after the specified number of repetitions is performed.

semlist -- Display list of semaphores

Displays a list of all semaphores.

evlist -- Display list of event flags

Displays a list of all event flags.

cpuwatch -- Begin displaying CPU usage

Begins displaying the rates of CPU usage for all threads combined.

Displaying is performed with Kprint() and will take place through dsicons running in a separate window.

The number of samples per second can be specified. The default is 10.

Setting the sample count to 0 will halt the display.

The -b option provides a bar chart display and the -br option provides a bar chart display with no new lines.

thwatch -- Begin displaying CPU usage for a specific thread

Begins displaying the rate of CPU usage for a specified thread.

Displaying is performed with Kprint() and will take place through dsicons running in a separate window.

The number of samples per second can be specified. The default is 10.

Setting the sample count to 0 will halt the display.

The -b option provides a bar chart display.

The -br option provides a bar chart display with no new lines.