HIT
User's Guide
for
UNIX Systems

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Hierarchical Evaluation Tool

HIT

Version 3.7.000

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Abstract:

This guide describes the usage of the HIT system on a workstation or PC under the operating system UNIX (valid for most UNIX-like systems). The standard shellscripts *hit* and *oma* are available. The use of these scripts and their parameters are described.

The title page contains two version numbers: That of this document and the version number of the HIT system to which this document applies. The document version and date is also included in the page footer. Here lower version numbers may appear for unchanged pages.

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HIT may simultaneously be activated by more than one user. The current working directories of simultaneous *hit* calls must be disjoint, since some output files of *hit* have fixed relative names.

In the following text *installation_path* indicates the name of the directory the HIT-system is installed in.

To use HIT, it is necessary to call the shellscript *hit* by entering

```
installation_path/hit
```

It is useful to define an alias for hit or to set a path by entering (within the .login file):

```
set path=($path installation_path)
```

The script calls the HI-SLANG-compiler and the SIMULA-compiler for the generated code. The compiled module will be executed next. There are many options to control the shellscript. Most options are similar to those of the original BS2000 installation of HIT and more mnemonical than the UNIX convention to use one-letter flags for this purpose.

The script may be called like this:

```
hit [control_filename task_option]
```

or

```
env [option=value ... ] hit [control_filename task_option]
```

The following options are identical:

control_filename ----> same as option *control*
task_option----> same as option *task*

Since they are frequently used, the parameters *control* and *task* are both implemented as keyword parameters as well as positional parameters.

If keyword parameters are to be set for more than one call of *hit*, it is advantageous to use *hit* like this:

```
Within a standard shell:     Within a C shell:

option=value ...                  setenv option value
export option ...                 ...
hit ...                      hit ...
hit ...                      hit ...
```

1.1 Options of hit

The following options are available (the default value of every option is underlined):

control ----> Name of the control file.The use of wildcards is allowed
to start experiment series. In this case it is necessary to write
the value of control in quotation marks e.g.
hit "*.ctl"
hit "exp1*" exp
hit "mod1* mod2*"

task ----> Starting point of the shell
(com = HI-SLANG-compilation followed by ...
sim = SIMULA-compilation followed by ...
exp = program execution)

option ----> Exit point of the shellscript
(check : only HI-SLANG-compilation
run : the complete run)

output ----> Direction of the output
(noterm : only $comlst and $explst
term : only stdout
both : both)

prefix----> Prefix for temporary files (./t., t.$$., /tmp/$$, ...)

simula ----> Directory path of SIMULA system (´ ´ : defined by $path)
prtime ----> Display of times used for the actions performed (time, ' ')

parmc ----> Parameters for the HI-SLANG compiler (-p -g)
parms ----> Parameters for the compilation of the analyzers (-w -e -h)
parme ----> Parameters for the analyzer run time system (-p -g)
(see your SIMULA User's Guide for these parameters)

sizeexp ----> Size parameter for the experiment in kB (4096)
sizecomp ----> Size parameter for the HI-SLANG compilation in kB(4096)
debug ----> Option to use the debugger when running
the analyzer (0, 1, ...) (Only for maintenance)

comdta ----> Sysin file of the compiler (< stdin)
comlst ----> Sysout file of the compiler ($prefix.compiler, stdout)
expdta ----> Sysin file of the experiment (< stdin)
explst ----> Sysout file of the experiment ($prefix.experiment, stdout)

code ----> SIMULA output file of the HI-SLANG compilation
(without extension .sim) ($prefix.hitcode)
oma ----> Call *oma* after running the HIT system (y / n)

1.2 Specific Advices

1.2.1 Generated Files

Some new files exist in the current directory after every run of the HIT system. There are two classes of files:

1.2.1.1 Files created by the Shellscript hit

Their names can only be modified by the parameter *prefix*. The contents of the directory depends on the parameters of the script *hit*, but normally the following files exist:

t.hitcode	the analyzer to be run
t.hitcode.sim	the generated code of the HI-SLANG-compiler
t.compiler	the standard output file of the compiler (terminal output)
t.experiment	the standard output file of the analyzer (terminal output)

Moreover calling *hit* temporarily produces a file *t.sysinit.ctl* and a (soft)link named *HITs* from the current directory to the directory *installation_path*/SYSTEM/DATA, but these files are normally deleted after normal termination or interrupting HIT.

1.2.1.2 Files Created by the HIT System

Their names may either be defined in the control file or by using filename generator of HIT. The latter is automatically used for files with a standard linkname which is not bound in the control file.

The filename generator works as follows: The files have the names *t.<c>.<l>* , with *<c>* being the name of the control file stripped of the directory prefix and a suffix *.ctl* or *.hit* and *<l>* resembling the leading three letters of the standard link name, e.g. *lis* for listing, *tra* for trace.

Example: For a control file named *my_dir/example/ex1.ctl* , the standard name of the listing within the current directory would be *t.ex1.lis* !

The user may define a different filename pattern by using "%DEFAULT pattern" in his control file. Please consult the reference manual for more information.

1.2.2 Usage of HIT in Batch Mode

HIT can be run in batch mode by typing:

```
hit  [control_filename task_option] > /dev/null &
```

or

```
env output=noterm hit  [control_filename task_option] &
```

or the like, as described above. This is recommended especially for long simulation runs.

2. How to Use the Shellscript oma

The shellscript *oma* serves to call the HIT object manager, which is explained in the HIT-OMA User's Manual.

The script can be called by:

[env option=value ...] ***installation_path/oma*** **[task]**

It is useful to define an alias to call *oma* or to set a path. The following options are available:

task	-->	First oma command (' ')
output	-->	Switch of output-direction (noterm, term, both)
omalst	-->	Sysout file for *oma* (t.oma, sysout)

Calling *oma* produces the file *t.oma.lis* which contains a protocol of the session, while the file given by parameter *omalst* (the terminal output) is only created when *output* is not set to *term*. Moreover a (soft)link *HITs* and the file *t.sysinit.ctl* will temporarily be created, analogously to *hit*.

As an option, the shellscript *oma* may be called with an introductory command *task* as a parameter, the command then being executed right at beginning of the object manager, e.g. *READ filename*. The specified file may contain the default settings of the user.

```
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H I T   E r r o r   R e p o r t     .       .      .        .        .
===============================     ..................................

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| Name   :                          Date    :                        |
| Address:                                                           |
|                                                                    |
|                                   Computer:                        |
| E-mail :                          O S     :             Vers:      |
| Tel.   :                          SIMULA  :             Vers:      |
+--------------------------------------------------------------------+
|  Compiler:       Analyzer:        Others:       Documentation:     |
|  ---------       ---------        -------       --------------     |
|  O PASS1         O SIMUL          O FAN         O Reference Manual |
|  O PASS2         O DOQ4           O OMA         O Introduction     |
|  O EXTREF        O LIN2           O Unknown     O Others:          |
|  O LINKER        O MARKOV                                          |
|  O ACG                            O Suggested                      |
|  O SCG           O RESULT           Enhancement                    |
+--------------------------------------------------------------------+
| Version of above:                 Catchword:                       |
+--------------------------------------------------------------------+
| Problem Description:                                               |
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| Enclosures:                                                        |
+--------------------------------------------------------------------+
| Please list all concerned filenames and make sure that all files   |
| can be accessed by the HIT crew. Or append all concerned files to  |
| your e-mail (use Unix shar if available)                           |
|                                                                    |
| CONTROL/SOURCE:                                                    |
| %COPY Files   :                                                    |
|                                                                    |
| INFILEs       :                                                    |
+--------------------------------------------------------------------+
       The smaller the example, the better the maintenance!
+------------------------------------------------------------+-------+
| (t o   b e   f i l l e d    b y   t h e   H I T   c r e w) |History|
|                                                            |       |
| O Corrected.  O NoError.    Comments/Alternative:          |->     |
| - Version  :                                               |->     |
| - Module   :                                               |->     |
| - Date     :                                               |->     |
| - Signature:                                               |->     |
+------------------------------------------------------------+-------+
```

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