Megatest/Logpro Training

Using Megatest and Logpro for creating flows and automation for software, EDA, or Unix infrastructure at the unit, functional, and regression levels.

Matt Welland, 2016

Training Overview

- Background
- Getting started
  - Dashboard/command line (existing flow)
    - Running tests and managing runs
  - Creating a flow
    - configs: megatest, runconfig
    - tests/tasks: testconfig, logpro
  - Getting information about runs and tests
- Preview of advanced Megatest topics
- Future Megatest development

What does Megatest do?

- Run tests or tasks with
  - one or many steps
  - dynamic test dependency calculation
  - on multiple hosts
  - multi-level iteration
- Report, record and roll up state, status and data
  - state: RUNNING, COMPLETED
  - status: PASS, FAIL, WARN, CHECK
  - data: slew rate, count of failed assertions etc.
- Organize “runs” by project specific variables

Megatest Design Philosophy

Factors for Sustainable Automation

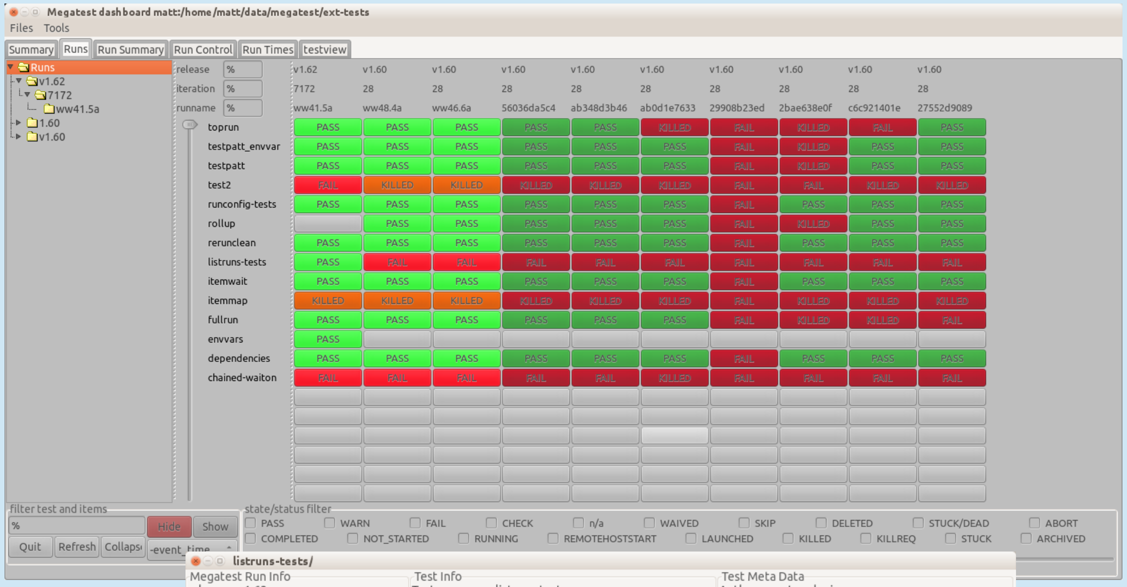
Self-checking	write directed or self-checking tests (avoid delta based tests)
Traceable	environment variables, host OS, etc. captured and recorded.
Immutable	once run do not modify, reuse or overwrite tests.
Repeatable	this test result can be recreated in the future
Relocatable	the test area can be checked out and the tests run anywhere
Encapsulated	test run area is self-contained with all inputs and outputs kept
Deployable	anyone on the team, at any site, at any time can run the tests

Wisdom is knowing when it is ok to bend or break the rules!

Megatest strives to make it straightforward to do things right but still possible to get the job done when the rules must be bent or broken.

Dashboard/Test Control Panel

- dashboard
  - browse runs
  - filtering
    - target
    - runname
    - test pattern
    - state/status
  - launch runs
- test control panel
  - xterm
  - view log
  - cleanrunexecute



Megatest dashboard matt:/home/matt/data/megatest/ext-tests

Files Tools

Summary | Runs | Run Summary | Run Control | Run Times | testview

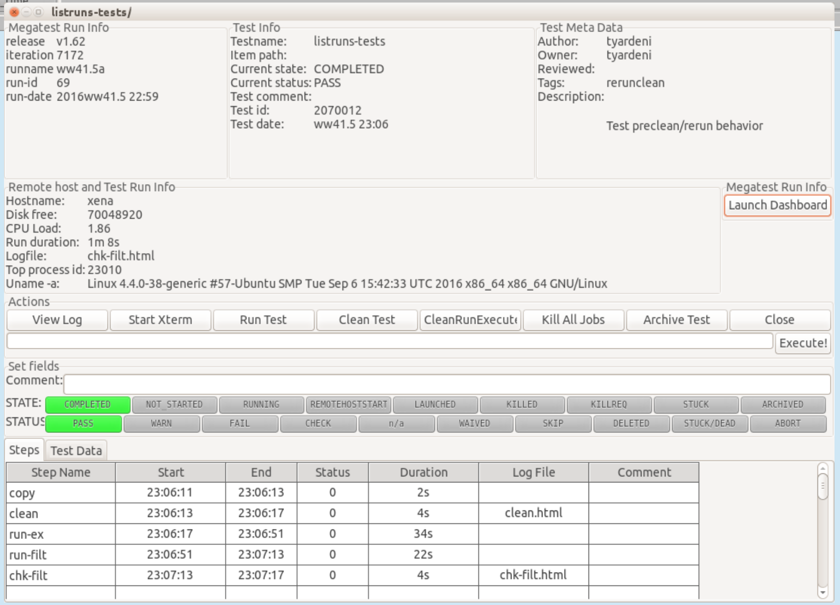
Runs
- v1.62
  - 7172
    - ww41.5a
- 1.60
- v1.60

release %	v1.62	v1.60	v1.60	v1.60	v1.60	v1.60	v1.60	v1.60	v1.60	v1.60
iteration %	7172	28	28	28	28	28	28	28	28	28
runname %	ww41.5a	ww48.4a	ww46.6a	56036da5c4	ab348d3b46	ab0d1e7633	29908b23ed	2bae638e0f	c6c921401e	27552d9089
toprun	PASS	PASS	PASS	PASS	PASS	KILLED	FAIL	KILLED	FAIL	PASS
testpatt_envvar	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	KILLED	PASS	PASS
testpatt	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	KILLED	PASS	PASS
test2	FAIL	KILLED	KILLED	KILLED	KILLED	KILLED	FAIL	FAIL	KILLED	KILLED
runconfig-tests	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS	PASS	PASS
rollup		PASS	PASS	PASS	PASS	PASS	FAIL	KILLED	PASS	PASS
rerunclean	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS	PASS	PASS
listruns-tests	PASS	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL	FAIL
itemwait	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS	PASS	PASS
itemmap	KILLED	KILLED	KILLED	KILLED	KILLED	KILLED	FAIL	KILLED	KILLED	KILLED
fullrun	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	KILLED	KILLED	FAIL
envvars	PASS									
dependencies	PASS	PASS	PASS	PASS	PASS	PASS	FAIL	PASS	PASS	PASS
chained-waiton	FAIL	FAIL	FAIL	FAIL	FAIL	KILLED	FAIL	FAIL	FAIL	FAIL

filter test and items: %

Hide | Show | Quit | Refresh | Collaps | -event_time

state/status filter: ☐ PASS ☐ WARN ☐ FAIL ☐ CHECK ☐ n/a ☐ WAIVED ☐ SKIP ☐ DELETED ☐ STUCK/DEAD ☐ ABORT ☐ COMPLETED ☐ NOT_STARTED ☐ RUNNING ☐ REMOTEHOSTSTART ☐ LAUNCHED ☐ KILLED ☐ KILLREQ ☐ STUCK ☐ ARCHIVED



listruns-tests/

Megatest Run Info
release v1.62
iteration 7172
runname ww41.5a
run-id 69
run-date 2016ww41.5 22:59

Test Info
Testname: listruns-tests
Item path:
Current state: COMPLETED
Current status: PASS
Test comment:
Test id: 2070012
Test date: ww41.5 23:06

Test Meta Data
Author: tyardeni
Owner: tyardeni
Reviewed:
Tags: rerunclean
Description:
Test preclean/rerun behavior

Remote host and Test Run Info
Hostname: xena
Disk free: 70048920
CPU Load: 1.86
Run duration: 1m 8s
Logfile: chk-filt.html
Top process id: 23010
Uname -a: Linux 4.4.0-38-generic #57-Ubuntu SMP Tue Sep 6 15:42:33 UTC 2016 x86_64 x86_64 GNU/Linux

Megatest Run Info: Launch Dashboard

Actions: View Log | Start Xterm | Run Test | Clean Test | CleanRunExecute | Kill All Jobs | Archive Test | Close | Execute!

Set fields
Comment:
STATE: [✓ COMPLETED] NOT_STARTED RUNNING REMOTEHOSTSTART LAUNCHED KILLED KILLREQ STUCK ARCHIVED
STATUS: [✓ PASS] WARN FAIL CHECK n/a WAIVED SKIP DELETED STUCK/DEAD ABORT

Steps | Test Data

Step Name	Start	End	Status	Duration	Log File	Comment
copy	23:06:11	23:06:13	0	2s		
clean	23:06:13	23:06:17	0	4s	clean.html	
run-ex	23:06:17	23:06:51	0	34s		
run-filt	23:06:51	23:07:13	0	22s		
chk-filt	23:07:13	23:07:17	0	4s	chk-filt.html	

Terminology

target	one or more "keys" separated by "/", used to organize runs hierarchically; examples include platform, release, architecture, stage (e.g. development, final QA, alpha, beta) and so forth. E.g target = x86/centos/dev where the keys are ARCHITECTURE, OS, and RELEASE. A target is a context.
run name	unique name (within a single target grouping) for a run, a common idiom is to use week and day numbers: e.g w41.6 (use unix command: date +w%V.%u)
run	a group of tests run under a single target and run name
test or task	a self-contained area with scripts and data to achieve some testing or automation goal
iterated test	a single test run multiple times with variables iterated over a range of values
state	the state of a test; NOT_STARTED, RUNNING, COMPLETED etc.
status	the current status of this test given its state; PASS, FAIL, n/a

Architecture

- config files, static state, human input
  - megatest.config
  - runconfigs.config
  - tests/<testname>/testconfig
- SQL database, dynamic state
  - megatest.db
- Tools
  - megatest (command line), dashboard (gui), and logpro (log file analysis via rules), refdb (text based data base)

Getting Help

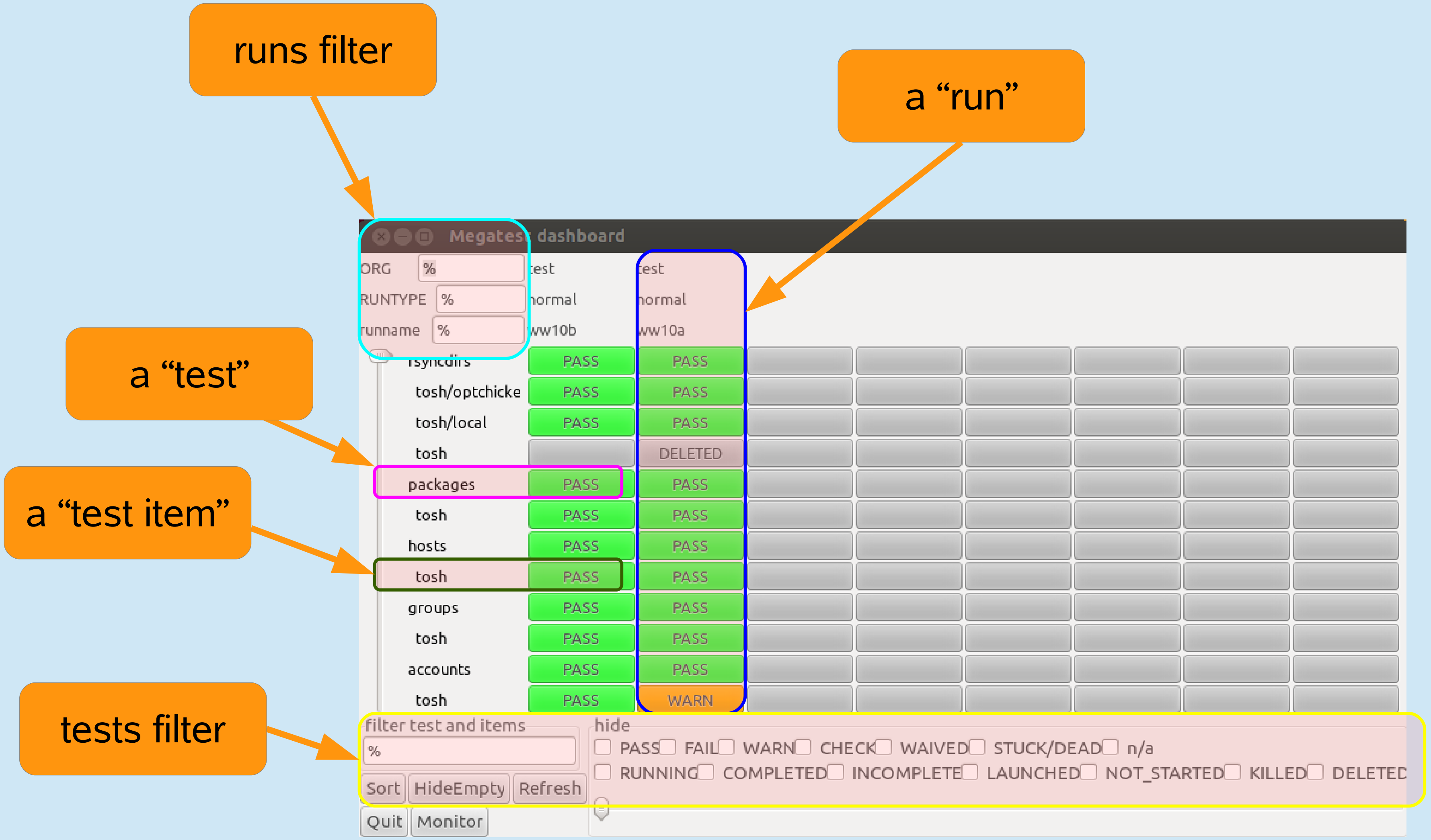
- Command line help:

```
megatest -h
or try: viewscreen “megatest -h |& less”
```

- The user manual:

```
megatest -manual
```

dashboard



ORG	test	test
RUNTYPE	normal	normal
runname	ww10b	ww10a
rsyncdirs	PASS	PASS
tosh/optchicke	PASS	PASS
tosh/local	PASS	PASS
tosh		DELETED
packages	PASS	PASS
tosh	PASS	PASS
hosts	PASS	PASS
tosh	PASS	PASS
groups	PASS	PASS
tosh	PASS	PASS
accounts	PASS	PASS
tosh	PASS	WARN

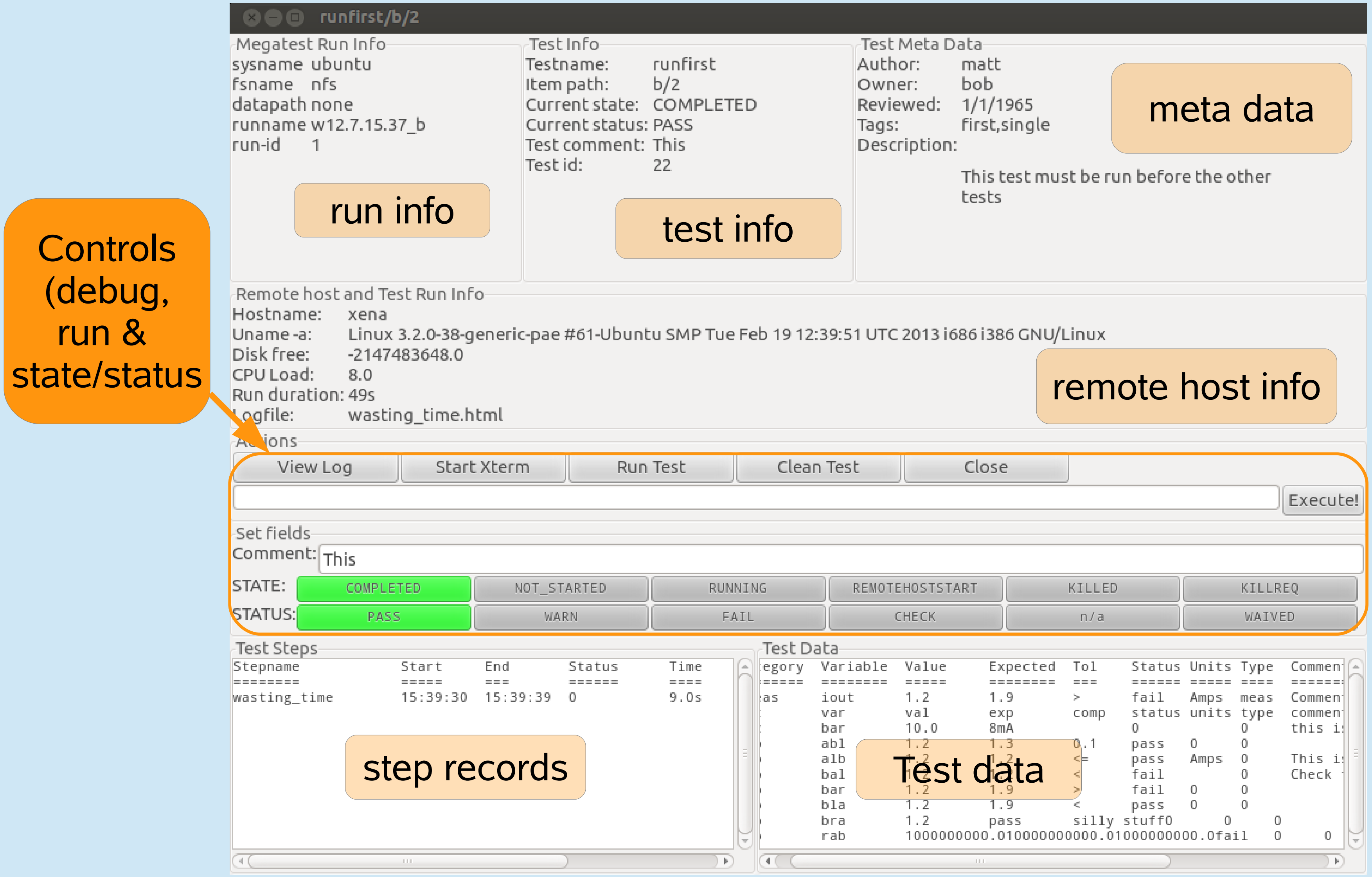
ORG %
RUNTYPE %
runname %

filter test and items
%

hide
☐ PASS ☐ FAIL ☐ WARN ☐ CHECK ☐ WAIVED ☐ STUCK/DEAD ☐ n/a
☐ RUNNING ☐ COMPLETED ☐ INCOMPLETE ☐ LAUNCHED ☐ NOT_STARTED ☐ KILLED ☐ DELETED

Do live demo of dashboard here.

test control panel



Megatest Run Info

sysname	ubuntu
fsname	nfs
datapath	none
runname	w12.7.15.37_b
run-id	1

Test Info

Testname:	runfirst
Item path:	b/2
Current state:	COMPLETED
Current status:	PASS
Test comment:	This
Test id:	22

Test Meta Data

Author:	matt
Owner:	bob
Reviewed:	1/1/1965
Tags:	first,single
Description:	This test must be run before the other tests

Remote host and Test Run Info

Hostname:	xena
Uname -a:	Linux 3.2.0-38-generic-pae #61-Ubuntu SMP Tue Feb 19 12:39:51 UTC 2013 i686 i386 GNU/Linux
Disk free:	-2147483648.0
CPU Load:	8.0
Run duration:	49s
Logfile:	wasting_time.html

Actions

Set fields

Comment: This

STATE:	🟩 COMPLETED	NOT_STARTED	RUNNING	REMOTEHOSTSTART	KILLED	KILLREQ
STATUS:	🟩 PASS	WARN	FAIL	CHECK	n/a	WAIVED

Test Steps

```
Stepname                 Start     End       Status      Time
========                 =====     ===       ======      ====
wasting_time             15:39:30  15:39:39  0           9.0s
```

Test Data

```
egory   Variable  Value     Expected  Tol       Status Units Type  Commen
=====   ========  =====     ========  ===       ====== ===== ====  ======
as      iout      1.2       1.9       >         fail   Amps  meas  Commen
        var       val       exp       comp      status units type  commen
        bar       10.0      8mA                 0            0     this i
        abl       1.2       1.3       0.1       pass   0     0
        alb       1.2       1.2       <=        pass   Amps  0     This i
        bal       1.2       1.2       <         fail         0     Check
        bar       1.2       1.9       >         fail   0     0
        bla       1.2       1.9       <         pass   0     0
        bra       1.2       pass      silly stuff0       0     0
        rab       1000000000.010000000000.01000000000.0fail  0     0
```

Do live demo of test control panel here.

Run Management

- Launching runs
  - command line: “megatest -run ...”
  - test control panel: push “run” then “execute”
- Removing runs
  - command line: “megatest -remove-runs ...”
- Archiving runs
  - command line: “megatest -archive ...”

note: all these commands require the use of additional selector parameters such as -target and -runname

Task/Test Management

- Killing jobs
  - In the gui set status to “KILLREQ” and the job will be killed.
  - Command line example:

```
megatest -set-state-status KILLREQ,FAIL -target ubuntu/nfs/none \
          -runname w10.2a -testpatt %/% -state RUNNING,LAUNCHED
```

- Changing state and status of tests
  - Use -set-state-status, see example above.
- Add “-rerun FAIL” to your launch command line to force the re-run of failed jobs

Test Selectors

- -testpatt testpattern/itempattern
  - wild card is “%”

    %   synonymous with %/%

    %/   toplevel tests (no items)
- comma separate multiple patterns (OR)

  %/,%/a/b   All toplevel + any items matching a/a

Getting information

- -list-runs pattern
  - lists runs with runname matching pattern.
- -extract-ods
  - creates an open-document spreadsheet
- Miscellaneous queries

  -list-disks

  -list-targets

  -list-db-targets

Config File Syntax

The config file syntax was designed to be:

- simple and forgiving to syntax mistakes
- easy to understand and trace where values originated
- expressive enough for complex needs.

	Example	description of the example
Sections	[setup]	Variables defined on subsequent lines will be in the “setup” section
Variables	ABC 1	Variable “ABC” will have the value “1”
[ ] directives	[include a.txt]	include file “a.txt”, see manual for all directives
#{ } text substitutions	#{shell ls $PWD}	replace the #{ … } with the output of the ls $PWD command. Note that newlines are replaced with spaces.

Config File Text Substitutions

NOTE: [ ] substitutions can be deferred by megatest and executed just before launching a test but #{ } substitutions are done as each line is read.

[include filename]	Includes filename. Ignores if filename does not exist
[system command]	replaced with output from command
#{shell command}	replaced with output from command
#{system command}	replaced with the exit code of command
#{scheme (schemecode)}	replaced with the result of evaluating (schemecode)
#{getenv VAR}	replaced with the value of environment variable VAR
#{get section var}	replaced with the value of var from section
#{rget var}	use runconfig rules to get a variable

Creating a Megatest Area

- Required Config files
  - megatest.config
  - runconfigs.config
- Tests
  - testconfig
- Can use the helper “wizards”

```
megatest -create-megatest-area
megatest -create-test  <testname>
```

(demo of -create-megatest-area and -create-test)

Setup Megatest Area (Review)

- Config files
  - megatest.config
    - Target A/B/C …
      - One or more “keys” (the “A”, “B” and “C”)
      - Choose carefully! They cannot be changed after your megatest.db is created
    - links area (the link tree to all your tests)
    - runs disk (can add more over time)
      - Lowest usage disk used first
      - Link tree symlinks point into run areas
  - runconfigs.config
    - can be empty initially

Required Config Files

megatest.config

```
[fields]
PLATFORM TEXT
OS       TEXT

[setup]
# Adjust max_concurrent_jobs to limit parallel jobs
max_concurrent_jobs 50

# This is your link path, best to set it and then not change it
linktree #{getenv MT_RUN_AREA_HOME}/linktree

# Job tools control how your jobs are launched
[jobtools]
useshell yes
launcher nbfake

# You can override environment variables for all your tests here
[env-override]
EXAMPLE_VAR example value

# As you run more tests you may need to add additional disks
# the names are arbitrary but must be unique
[disks]
disk0 #{getenv MT_RUN_AREA_HOME}/runs
```

runconfigs.config

```
[default]
ALLTESTS see this variable

# Your variables here are grouped by targets [SYSTEM/RELEASE]
[SYSTEM_val/RELEASE_val]
ANOTHERVAR only defined if target is SYSTEM_val/RELEASE_val
```

Example testconfig

testconfig

```
# Add additional steps here. Format is "stepname script"
[ezsteps]
step1 step1.sh
step2 step2.sh

# Test requirements are specified here
[requirements]
waiton setup
priority 0

# Iteration for your tests are controlled by the items section
[items]
COMPONENT parser datastore transport analyzer

[logpro]
step1 ;;
   (expect:error in “LogFileBody” = 0 “No errors” #/err/i)

# test_meta is a section for storing additional data
# on your test
[test_meta]
author matt
owner  matt
description An example test
tags tagone,tagtwo
reviewed never
```

Megatest Information

- Main development site

  http://www.kiatoa.com/fossils/megatest

  http://www.kiatoa.com/fossils/logpro
- Mirror

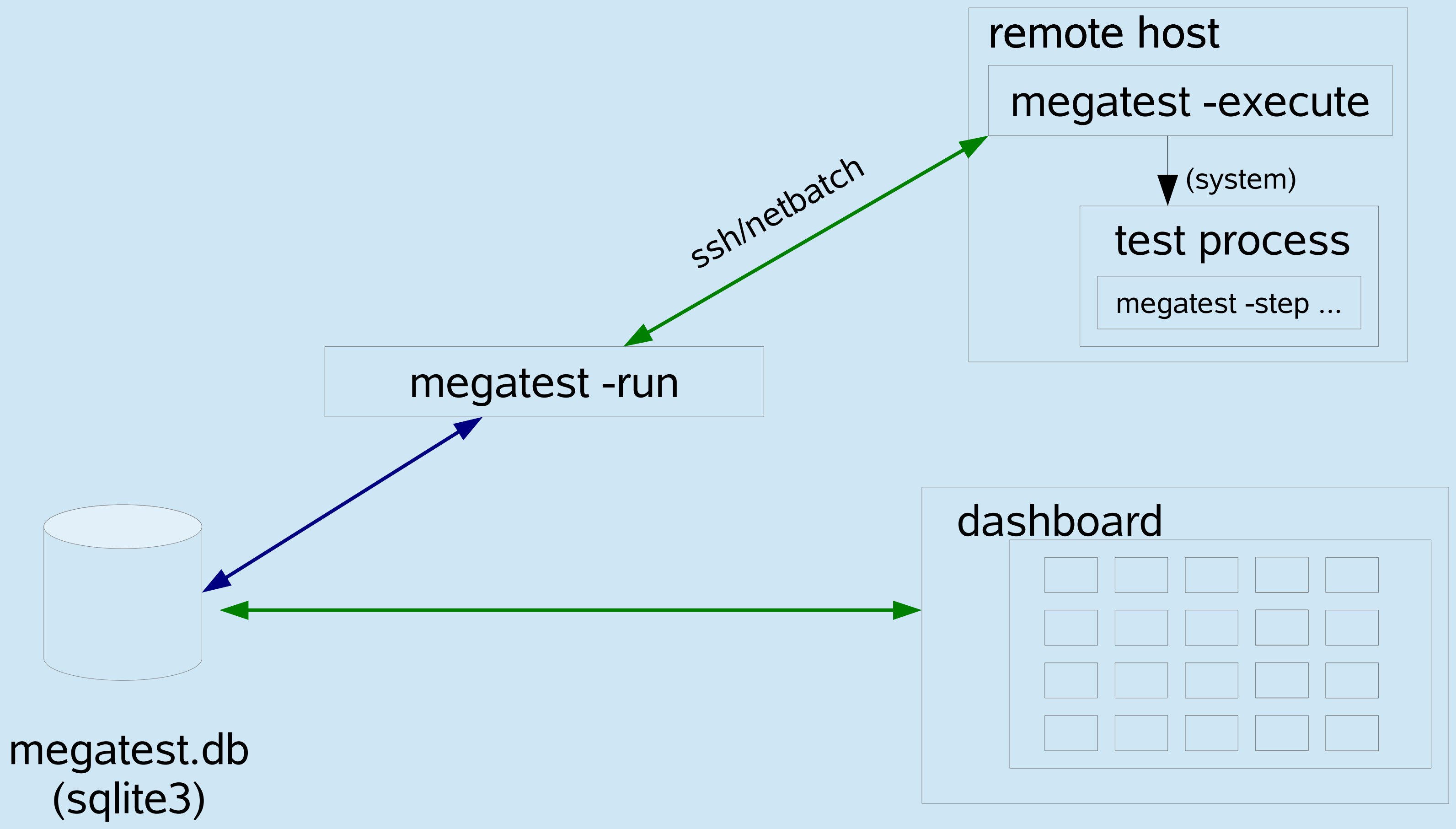
  http://chiselapp.com/user/kiatoa/repository/megatest

  http://chiselapp.com/user/kiatoa/repository/logpro
- SourceForge Page

  http://sourceforge.com/projects/megatest

Backup

How it Works


remote host
megatest -execute
(system)
test process
megatest -step ...
ssh/netbatch
megatest -run
dashboard
megatest.db
(sqlite3)

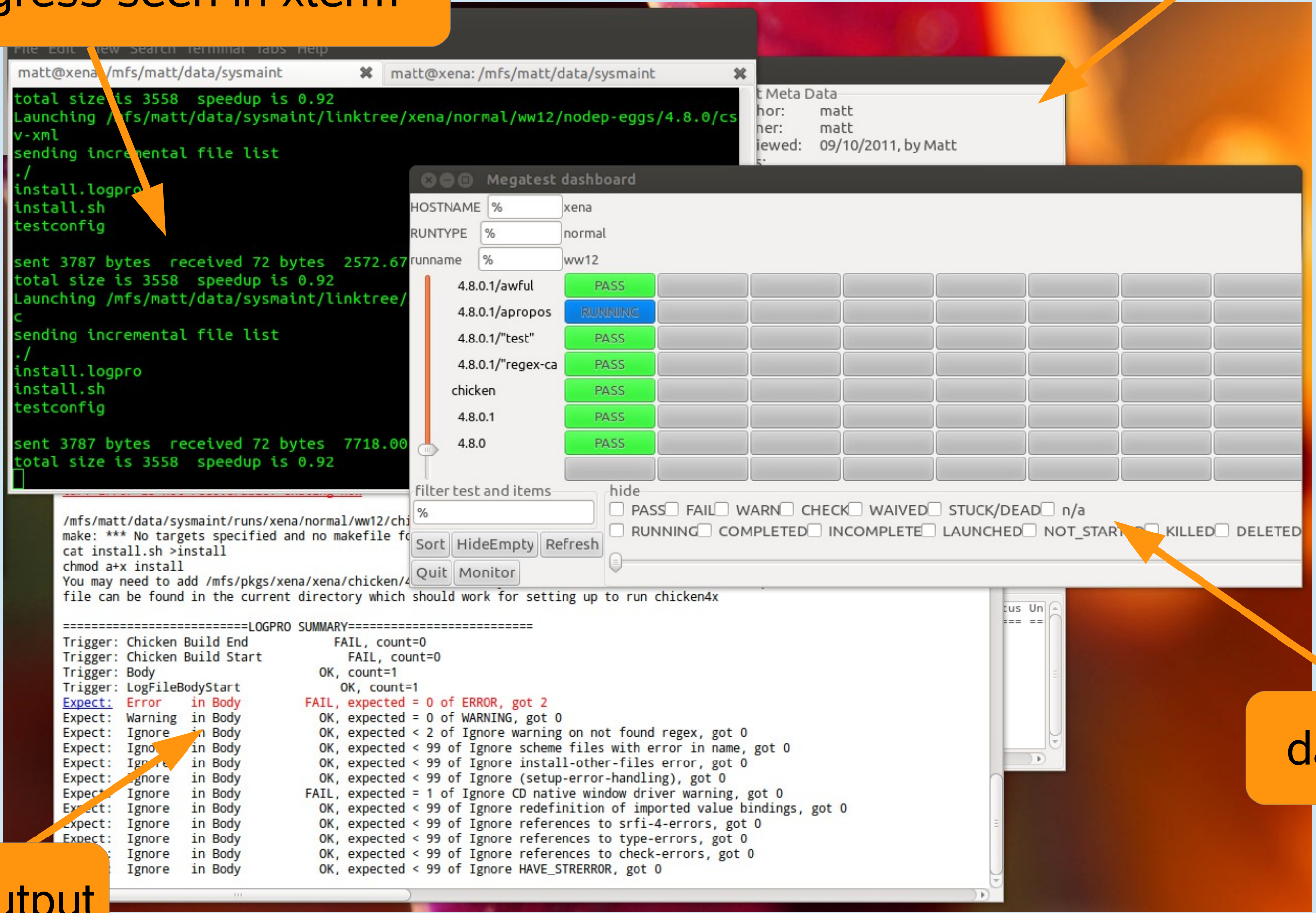
A Day in The Life …

run progress seen in xterm

test control panel (in background)

dashboard

logpro output



```
matt@xena: /mfs/matt/data/sysmaint

total size is 3558  speedup is 0.92
Launching /mfs/matt/data/sysmaint/linktree/xena/normal/ww12/nodep-eggs/4.8.0/cs
v-xml
sending incremental file list
./
install.logpro
install.sh
testconfig

sent 3787 bytes  received 72 bytes  2572.67
total size is 3558  speedup is 0.92
Launching /mfs/matt/data/sysmaint/linktree/
c
sending incremental file list
./
install.logpro
install.sh
testconfig

sent 3787 bytes  received 72 bytes  7718.00
total size is 3558  speedup is 0.92
```

```
t Meta Data
hor:      matt
ner:      matt
iewed:    09/10/2011, by Matt
```

Megatest dashboard

HOSTNAME	%	xena
RUNTYPE	%	normal
runname	%	ww12
4.8.0.1/awful	PASS	
4.8.0.1/apropos	RUNNING	
4.8.0.1/"test"	PASS	
4.8.0.1/"regex-ca	PASS	
chicken	PASS	
4.8.0.1	PASS	
4.8.0	PASS	

filter test and items: %

hide: ☐ PASS ☐ FAIL ☐ WARN ☐ CHECK ☐ WAIVED ☐ STUCK/DEAD ☐ n/a ☐ RUNNING ☐ COMPLETED ☐ INCOMPLETE ☐ LAUNCHED ☐ NOT_STARTED ☐ KILLED ☐ DELETED

```
/mfs/matt/data/sysmaint/runs/xena/normal/ww12/chi
make: *** No targets specified and no makefile fo
cat install.sh >install
chmod a+x install
You may need to add /mfs/pkgs/xena/xena/chicken/4
file can be found in the current directory which should work for setting up to run chicken4x

=========================LOGPRO SUMMARY=========================
Trigger: Chicken Build End           FAIL, count=0
Trigger: Chicken Build Start           FAIL, count=0
Trigger: Body                        OK, count=1
Trigger: LogFileBodyStart              OK, count=1
Expect:  Error    in Body          FAIL, expected = 0 of ERROR, got 2
Expect:  Warning  in Body            OK, expected = 0 of WARNING, got 0
Expect:  Ignore   in Body            OK, expected < 2 of Ignore warning on not found regex, got 0
Expect:  Ignore   in Body            OK, expected < 99 of Ignore scheme files with error in name, got 0
Expect:  Ignore   in Body            OK, expected < 99 of Ignore install-other-files error, got 0
Expect:  Ignore   in Body            OK, expected < 99 of Ignore (setup-error-handling), got 0
Expect:  Ignore   in Body          FAIL, expected = 1 of Ignore CD native window driver warning, got 0
Expect:  Ignore   in Body            OK, expected < 99 of Ignore redefinition of imported value bindings, got 0
Expect:  Ignore   in Body            OK, expected < 99 of Ignore references to srfi-4-errors, got 0
Expect:  Ignore   in Body            OK, expected < 99 of Ignore references to type-errors, got 0
Expect:  Ignore   in Body            OK, expected < 99 of Ignore references to check-errors, got 0
Expect:  Ignore   in Body            OK, expected < 99 of Ignore HAVE_STRERROR, got 0
```

Writing a Test “checkspace”

- Write a test that checks for available space
  - tests can “waiton” this test before running.
- Our test will use this simple script, checkspace.sh:

```
#!/bin/bash -e
freespace=`df -k $DIRECTORY | grep $DIRECTORY | awk '{print $4}'`
if [[ $freespace -lt $REQUIRED ]];then
  echo "ERROR: insufficient space on $DIRECTORY"
  exit 1
else
  echo "There is adequate space on $DIRECTORY"
fi
```

Note: Files for this example can be found in “example” dir in Megatest distribution

Writing a Test “checkspace”

- Commands to create test “checkspace”
  - mkdir -p linktree runs tests/checkspace
  - cd tests/checkspace
  - vi checkspace.sh
  - chmod a+x checkspace.sh
  - vi testconfig

```
# Add steps here. Format is "stepname script"
[ezsteps]
checkspace checkspace.sh

# Iteration for your tests are controlled by the items section
[itemstable]
DIRECTORY    /tmp   /opt
REQUIRED   1000000 100000
```

Writing a test “checkspace”

- Write a logpro file to analyze your results

```
(expect:error in    "LogFileBody" = 0 "Any error"         #/err/i)
(expect:required in "LogFileBody" = 1 "Sucess signature" #/adequate space/)
```

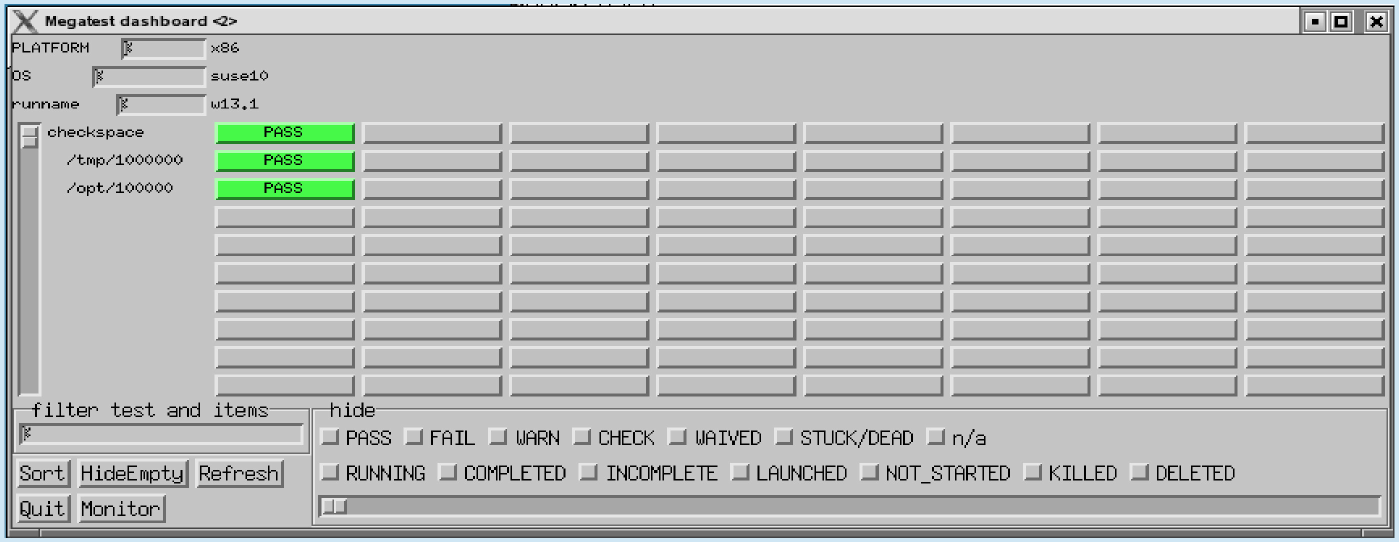
```
.
|-- megatest.config
|-- megatest.db
|-- monitor.db
|-- runconfigs.config
`-- tests
    `-- checkspace
        |-- checkspace.logpro
        |-- checkspace.sh
        `-- testconfig
```

Runing the “checkspace” Test

Run your test

From the directory where “megatest.config” exists run these commands:

```
dashboard &
megatest -runtests % -target x86/suse10 :runname w`date +%V.%u`
```



```
Megatest dashboard <2>
PLATFORM        x86
OS              suse10
runname         w13.1
checkspace      PASS
  /tmp/1000000  PASS
  /opt/100000   PASS
filter test and items
hide
PASS  FAIL  WARN  CHECK  WAIVED  STUCK/DEAD  n/a
RUNNING  COMPLETED  INCOMPLETE  LAUNCHED  NOT_STARTED  KILLED  DELETED
Sort  HideEmpty  Refresh
Quit  Monitor
```

The “checkspace” Test Directories

```
|-- linktree
|   `-- x86
|       `-- suse10
|           `-- w13.1
|               `-- checkspace
|                   |-- opt
|                   |   `-- 100000 -> /nfs/ch/disks/ch_unienv_disk005/qa_mrwellan/interim/src/megatest/example/runs/x86/suse10/w13.1/checkspace//opt/100000
|                   |-- testdat.db
|                   `-- tmp
|                       `-- 1000000 -> /nfs/ch/disks/ch_unienv_disk005/qa_mrwellan/interim/src/megatest/example/runs/x86/suse10/w13.1/checkspace//tmp/1000000
|-- runs
|   `-- x86
|       `-- suse10
|           `-- w13.1
|               `-- checkspace
|                   |-- opt
|                   |   `-- 100000
|                   |       |-- NBFAKE-2013WW13.1_09:57:48
|                   |       |-- checkspace.html
|                   |       |-- checkspace.log
|                   |       |-- checkspace.logpro
|                   |       |-- checkspace.sh
|                   |       |-- megatest.csh
|                   |       |-- megatest.sh
|                   |       |-- mt_launch.log
|                   |       |-- testconfig
|                   |       `-- testdat.db
|                   `-- tmp
|                       `-- 1000000
|                           |-- NBFAKE-2013WW13.1_09:57:49
|                           |-- checkspace.html
|                           |-- checkspace.log
|                           |-- checkspace.logpro
|                           |-- checkspace.sh
|                           |-- megatest.csh
|                           |-- megatest.sh
|                           |-- mt_launch.log
|                           |-- testconfig
|                           `-- testdat.db
```

Setup for Run “Flavors”

- runconfigs.config

```
[default]
VARS here are inherited by all runs

[some/target]
VARS here inherited in some/target runs
```

- NB// the last specified definition overrides prior definitions.

Setup Tests/Tasks

- A test or task is a set of scripts and data designed to do something or test something.
- Create in tests directory
- Test name limitations
  - No spaces or special characters
  - [a-zA-Z0-9_] and "-" are ok.

The testconfig file [setup]

- [setup]

  runscript scriptname.sh

  - The script must exist in the testconfig directory and be executable
  - Output from the script is NOT captured by Megatest directly
  - The script can be an executable or written in any scripting language

The testconfig file [ezsteps]

- [ezsteps]

  step1 script1.sh

  - The script “script1.sh” will be executed and its output redirected to the file step1.log.
  - If a logpro file step1.logpro exists it will be used to process the logfile step1name.log and generate the PASS/FAIL/WARN status.

The testconfig file [items]

```
[items]
VAR1 value11 value12 value13 …
VAR2 value21 value22 value23 ...
```

  - This will iterate this test with all possible combinations of VAR1 and VAR2 values.

- Results:
  - value11/value21, value11/value22, value11/value23, value12/value21, value12/value22, value12/value23 ...

The testconfig file [itemstable]

```
[itemstable]
VAR1    value11    value12  …
VAR2    value21    value22  …
```

  - This will iterate over the test with only aligned value combinations.

- Result:
  - value11/value21, value12/value22 …

NOTE: You can combine items and itemstable but they work independently and the result may not be what you expect.

The testconfig file [requirements]

[requirements]

waiton <testname … >

- this test will not be launched until the listed tests are COMPLETED and PASS, WAIVE or SKIP.

jobgroup <groupname>

- this test will be added to the named job group and the relevant max concurrent jobs will apply

mode toplevel

- this test will proceed once all it waiton tests are completed with any status.

The testconfig file[test_meta]

- author matt
- owner bob
- description The description can run to multiple lines but subsequent lines must be indented with spaces.
- tags first,single
- reviewed 09/10/2011, by Matt

Megatest Calls in Tests

- -step stepname
  - mark the start or end of a step
- -test-status

  set the state and status of a test
- -setlog logfname

  set the path/filename to the final log relative to the test directory.
- -set-toplog logfname

  set the log for a series of iterated tests

Other Megatest calls

- -summarize-items

  for an itemized test create a summary html (usually called automatically)

- -m comment

  insert a comment for this test, can be used with any of the above calls

- -test-files or -test-paths

  Use the database to search for files or paths in the test run area

Example Megatest in-test calls

- -step

```
$MT_MEGATEST -step step1 :state start :status
running -setlog step1.html
```

- -test-status

  (Mark a test as completed and trigger a rollup to the parent test of overall status)

```
$MT_MEGATEST -test-status :state COMPLETED :status
AUTO
```

- -test-path

```
export EZFAILPATH2=`$MT_MEGATEST -test-paths -target
  $MT_TARGET :runname $MT_RUNNAME -testpatt
  runfirst/a%`
```

Environment Variables

MT_TARGET	Contains the target for this run
MT_RUNNAME	The run name
MT_MEGATEST	Full path to megatest executable
MT_TEST_RUN_DIR	The area where the test itself runs
MT_TEST_NAME	The name of the current test
MT_ITEM_INFO	Data on the iteration
MT_RUN_AREA_HOME	The base area for this regression
MT_CMDINFO	Used internally by megatest
MT_DEBUG_MODE	Used to propogate debug mode to underlying megatest calls.
MT_LINKTREE	Full path to the link tree, use to find tests

Additional Features

- Run locking
  - Prevents removing or adding tests to a run

    -lock

    -unlock

Logpro

- Logpro syntax

  Logpro uses scheme calls directly and the full power of scheme is available. However 99% of logpro rule files will not need anything other than the base logpro rules.

- Documentation at: http://www.kiatoa.com/fossils/logpro

Rule	Example	Purpose
expect:error	(expect:error in "Logf" = 0 "Err desc" #/err1/i)	Flags errors matching the pattern err1
expect:ignore	(expect:ignore in "Logf" < 10 "Err desc" #/err2/i)	Ignore errors matching the pattern err2
expect:warning	(expect:warning in "Logf" = 0 "Desc" #/warn1/i)	Lines matching pattern warn1 flagged as warning
expect:required	(expect:required in "Logf" = 1 "Desc" #/reqrd/i)	Line matching pattern reqrd must exit in log file
expect:waive	(expect:waive in "Logf" = 0 "Err desc" #/err3/i)	Waive error matching pattern err3
expect:value	(expect:value in "Logf" 10 1 "Err desc" #/(\d+)/i)	The number matched must be 10 +/- 1
trigger	(trigger "start" #/Start logfile/)	Set trigger "**start**" on line with "Start logfile" string.
section	(section "Logf" "start" "end")	Section **Logf** starts at trigger **start**, ends at **end**
hook:add	(hook:add "err1" "err1.pl #{msg}")	On err1 call the err1.pl script with msg as param

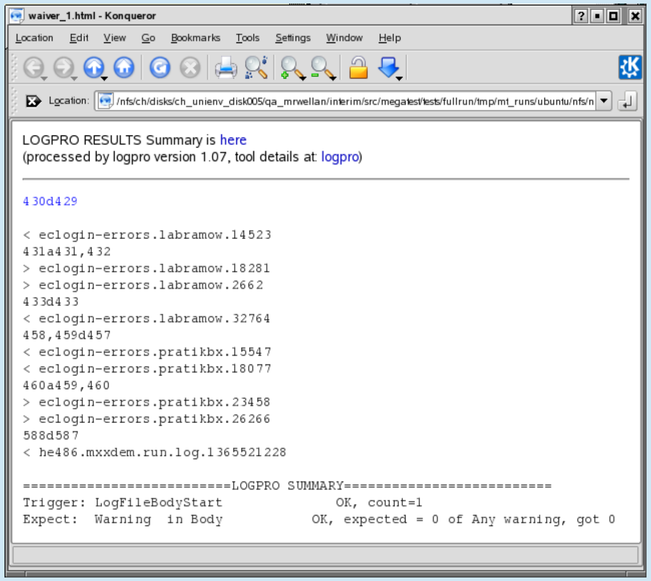
Advance Logpro Usage

- Data collection
  - Capturing with logpro
  - Rolling up with Megatest

Waiver Propagation

This test failed and was manually set to WAIVED in the next run

This test uses diff and logpro to determine if ok to propagate WAIVED


waiver_1.html - Konqueror
Location Edit View Go Bookmarks Tools Settings Window Help
Location: /nfs/ch/disks/ch_unienv_disk005/qa_mrwellan/interim/src/megatest/tests/fullrun/tmp/mt_runs/ubuntu/nfs/n

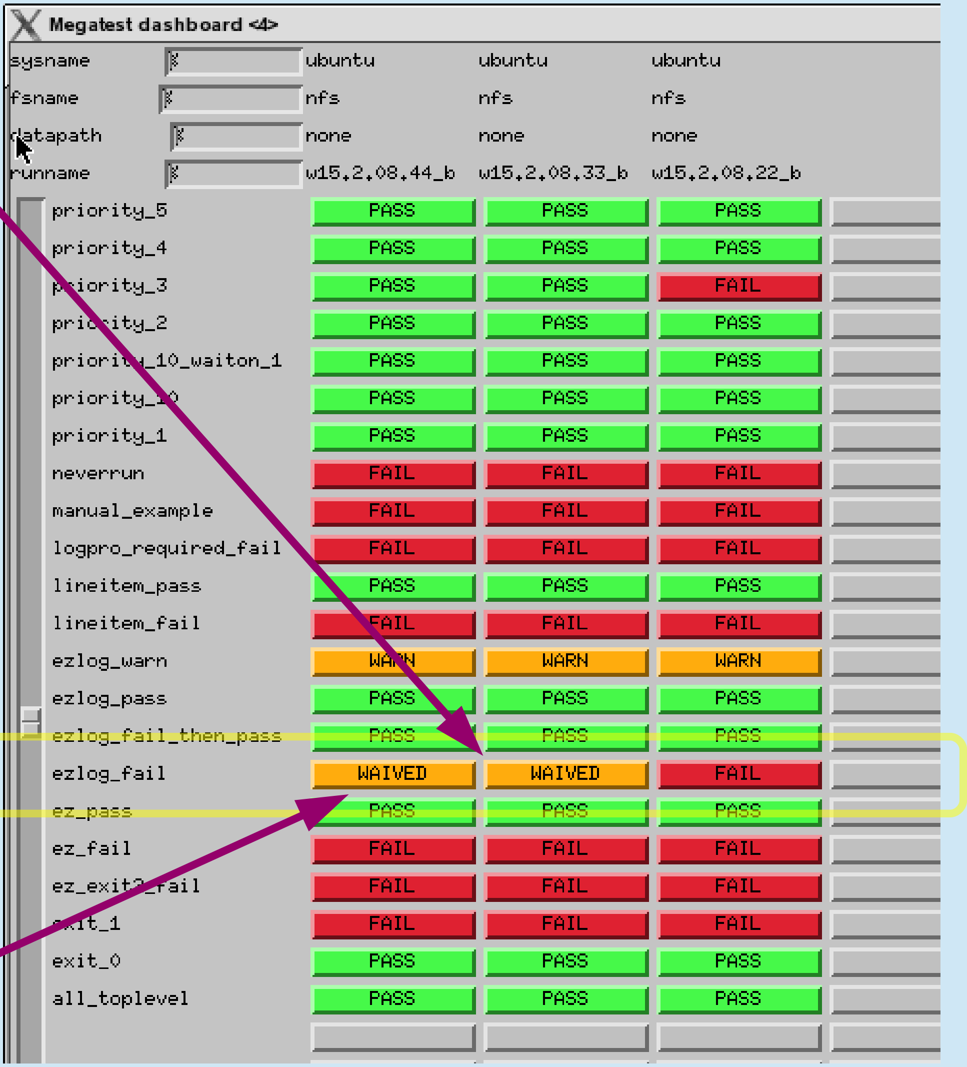
LOGPRO RESULTS Summary is here
(processed by logpro version 1.07, tool details at: logpro)

```
430d429

< eclogin-errors.labramow.14523
431a431,432
> eclogin-errors.labramow.18281
> eclogin-errors.labramow.2662
433d433
< eclogin-errors.labramow.32764
458,459d457
< eclogin-errors.pratikbx.15547
< eclogin-errors.pratikbx.18077
460a459,460
> eclogin-errors.pratikbx.23458
> eclogin-errors.pratikbx.26266
588d587
< he486.mxxdem.run.log.1365521228

==========================LOGPRO SUMMARY==========================
Trigger: LogFileBodyStart              OK, count=1
Expect:  Warning  in Body            OK, expected = 0 of Any warning, got 0
```

The WAIVED status was propagated because the criteria set in testconfig were all met



sysname	ubuntu	ubuntu	ubuntu
fsname	nfs	nfs	nfs
datapath	none	none	none
runname	w15.2.08.44_b	w15.2.08.33_b	w15.2.08.22_b
priority_5	PASS	PASS	PASS
priority_4	PASS	PASS	PASS
priority_3	PASS	PASS	FAIL
priority_2	PASS	PASS	PASS
priority_10_waiton_1	PASS	PASS	PASS
priority_10	PASS	PASS	PASS
priority_1	PASS	PASS	PASS
neverrun	FAIL	FAIL	FAIL
manual_example	FAIL	FAIL	FAIL
logpro_required_fail	FAIL	FAIL	FAIL
lineitem_pass	PASS	PASS	PASS
lineitem_fail	FAIL	FAIL	FAIL
ezlog_warn	WARN	WARN	WARN
ezlog_pass	PASS	PASS	PASS
ezlog_fail_then_pass	PASS	PASS	PASS
ezlog_fail	WAIVED	WAIVED	FAIL
ez_pass	PASS	PASS	PASS
ez_fail	FAIL	FAIL	FAIL
ez_exit2_fail	FAIL	FAIL	FAIL
exit_1	FAIL	FAIL	FAIL
exit_0	PASS	PASS	PASS
all_toplevel	PASS	PASS	PASS

Waiver Propagation

waiver name

waiver rule type

file to apply rule

example rules

```
# logpro_file  input_glob
# matching file(s) will be diff'd with previous run and logpro applied
# if PASS or WARN result from logpro then WAIVER state is set
#
[waivers]
waiver_1 logpro lookittmp.log

[waiver_rules]

# This builtin rule is the default if there is no <waivername>.logpro file
# diff   diff %file1% %file2%

# This builtin rule is applied if a <waivername>.logpro file exists
# logpro diff %file1% %file2% | logpro %waivername%.logpro %waivername%.html
```

Direct Access to Megatest Functions

- -repl
  - This will start a read-eval-print loop allowing you to directly call Megatest calls.
- -load test.scm
  - This will load the scheme source code and exectute it in the Megatest context.

New Features in v1.55

- Task/Test search path
  - organize your tests in different directories
  - reuse tests from other flows
- Automatic SKIP handling
  - Crontab friendly runs (can overlap)
- “itemmatch” mode
  - iterated tests block only on previous same-named iteration