

# Enhanced Log Records for the Agilent *Medalist* In-Circuit Test System

# **Application Note**

Have you ever wanted to easily track changes made to your Agilent *Medalist* i3070 test program?

Enhanced Log Records is a set of tools on the *Medalist* i3070 board test systems at software revision 7.10p that monitors and validates whether the board directory contents have been modified, including the testplan in memory. A report can be generated that includes the date and time that a file was changed. This can help to easily identify what changes have been made to your program.

### Baselining

Introduction

Baselining is part of a methodology that tracks when the programming changes occur and establishes markers when such changes have been approved. Baselining is especially important during board test production runs as it tracks and reports when and where files have been changed as boards are tested. Such tracking capabilities help assure test confidence and quality by validating that the tests released into production are continually monitored throughout the manufacturing life cycle.

All board test object files under a board test directory are baselined. Baselining records the filename, its CRC, and a timestamp in a custom database that resides in the board directory. As a function of board test runtime, object files are loaded as they are executed. At this time, the object files are cross-checked with their baselined CRCs in the database. If there is a mismatch, an alert record is generated. Also, the loaded testplan is cross-checked with its recorded CRC when the testplan is run. Furthermore, the loaded filename is checked with its recorded name and CRC when that program is run. This verifies that the loaded testplan was not edited in memory and then run.

The standard data log record format is used as the alert record that a change occurred. As part of the board start/board end log record, it reports general quality control health – *good and bad* state information. It provides a level of encryption within the data log content so that it is constantly changing and near impossible to compromise. This encrypted record describes the file indicted from the CRC mismatch.

By default, baselining is disabled on a board test directory. The article describes how to enable and use the baseline feature.



### Step by step procedures to enable the enhanced log records in a board directory

1. In BT Basic type 'msi to the target board directory that you want to enable the enhanced log records feature.

Example: msi"demo-bd" '

🗙 basic		
Status:		
"e i "demoshd"		
		basic 4092
Wed Oct 10 2007 09:49	11195 objtest p	ins.0
Fri Jan 26 2007 11:23	134 src polarity p	olarity
Fri Jan 26 2007 11:23	1699 objtest p	olarity.o
Fri Mar 4 2005 16:21	1349 src safeguard s	afeguard
Fri Mar 4 2005 16:27	1472 obj safeguard s	afeguard.o
Wed Oct 10 2007 09:50	18469 src shorts s	horts
Hed Oct 10 2007 09:50	11729 objtest s	horts.o
Mon Mar 7 2005 14:01	9081 src s	ummary
Tue Aug 14 2007 16:56	9496 objformat t	estability.raw
Tue Aug 14 2007 11:44	549 src t	estcoverage.rpt
Thu Jan 11 2007 17:06	18602 src testjet t	estjet
Thu Jan 11 2007 17:07	10613 objtest t	estjet.o
Wed Oct 10 2007 10:02	11395 src testorder t	estorder
Sun Oct 21 2007 22:00	73370 src basic t	estplan
Sun Oct 21 2007 22:00	19373 src t	estplan.diff
Wed Oct 10 2007 10:07	52901 src w	irelist
Mon Aug 13 2007 17:29	150376 objwirelist w	irelist.o
.: 36 Entries.		
recall recall	execute basic mar	k test pb store
edit plus minus		consult qstats line

#### 2. Load board.

× **BASE**				
<u>Status</u> :				
<mark>l</mark> oad board			basic 4092	
Hed Oct 10 2007 05 Fri Jan 26 2007 11 Fri Jan 26 2007 11 Fri Jan 26 2007 11 Fri Mar 4 2005 16 Fri Mar 4 2005 16 Hed Oct 10 2007 05 Hed Oct 10 2007 05 Hon Mar 7 2005 14 Tue Rug 14 2007 17 Tue Rug 14 2007 17 Thu Jan 11 2007 17 Hed Oct 10 2007 10 Sun Oct 21 2007 22 Sun Oct 21 2007 22 Sun Oct 21 2007 20 Hed Oct 10 2007 10 Mon Rug 13 2007 17	9:49 11195 obj 1:23 134 src 1:23 169 obj 6:21 1349 src 6:27 1472 obj 9:50 18469 src 9:50 11729 obj 9:50 11729 obj 1:44 549 src 7:67 10613 obj 0:02 11395 src 2:00 73370 src 2:00 19373 src 2:00 19373 src 7:29 150376 obj	j test p c polarity p j test p c safeguard s c safeguard s c shorts s j test s c s j format t c testjet t j test t c testorder t c basic t c w j wirelist w	ins.o olarity olarity.o afeguard afeguard horts.o ummary estability.raw estability.raw estoverage.rpt estjet estjet.o estorder estplan estplan.diff irelist.o	
recall r edit plus m	recall execute minus	basic marl	k test pb consult qsta	store ts line

### Step by step procedures to enable the enhanced log records in a board directory

3. Generate a baseline record by typing "baseline create on all".

🗙 basic									
<u>Status</u> :									
baseline	create	e on all					basic	4092	
Hed Oct Fri Jan Fri Mar Fri Mar Fri Mar Hed Oct Hed Oct Tue Aug Tue Aug Tue Aug Tuu Jan Thu Jan Hed Oct Sun Oct Sun Oct Hed Oct	10         2007           26         2007           26         2007           4         2005           4         2007           10         2007           10         2007           10         2007           14         2007           14         2007           11         2007           11         2007           21         2007           21         2007           21         2007           21         2007           21         2007           2007         2007	<pre>' 09:49 ' 11:23 ' 11:23 5 16:21 5 16:27 ' 09:50 ' 09:50 5 14:01 ' 16:56 ' 11:44 ' 17:06 ' 17:07 ' 10:02 ' 22:00 ' 22:00 ' 10:07 ' 17:29</pre>	11195 134 1699 1472 18469 1472 18469 9091 9496 549 18602 10613 11395 73370 19373 52901 150376	obj src obj src obj src obj src src src src src src obj	test polarity test safeguard safeguard shorts test format test test test testorder basic wirelist	pins.c polar; polar; safegu shorts shorts summar testal testal testof testpl testpl wirel; wirel;	o ity ity.o Jard Jard.o s s.o ry overage.r et.o rder lan lan.diff ist.o	w pt	
.: 36 Er	tries.								
edit	recall plus	recall minus	execut	e	basic	mark	test consult	pb qstats	store line

4. "Baseline create on all" executing.

×**BASE**	
<u>Status</u> : Running	
Status:       Running         baseline create on all	
File analog/c100 new revision: I base: I File "analog/c107" new revision: I base: I	
recall recall execute basic mark test pb edit plus minus consult qstats	store line

#### Step by step procedures to enable the enhanced log records in a board directory

5. At the end of baseline creation, you will be asked for an administrator password.

Enter a password for administrator.

Note: Remember your administrator password.



6. After creating administrator password a proxy password is needed.

Note: Remember your proxy password.

× **BAS	E**							
Status:	8							
baselin	e create	on all				basic	4092	
Proxy u	iser is au	ıthorized	to make b	baseline cha	nges only	1		
New Pas Reenter	swd: • Passwd: <mark>•</mark>							
edit	recall plus	recall minus	execute	basic	mark	test consult	pb qstats	store line

#### Step by step procedures to enable the enhanced log records in a board directory

7. Enter a passphrase which will be encrypted in the log records.

Note: Remember the passphrase.



8. Logout and the baseline will be saved.



#### Step by step procedures to enable the enhanced log records in a board directory

9. Execute "baseline verify on all" and it shows "all CRCs Verified which indicates that there are no changes in the board directory at this time.



10. Open an analog test.



Step by step procedures to enable the enhanced log records in a board directory

- 11. Change the value of the resistor from 4.7 k to 3.7 k.
- Status:
   128 lines in workspace.

   re-save
   analog 4092

   lgg! connect g to "3\_3V" ! 1
   resistor 0.7k, 1.37, 1.17, re4, wb, ar200m

   ! relo2" test.
   100": nominal 4.7k, plus tol 1.00 %, minus tol 1.00 %

   ! DUT: nominal 4.7k, plus tol 1.00 %, minus tol 1.00 %

   ! DUT: high 4.747k, low 4.653k

   ! TEST: high limit 4.765k, low limit 4.645k

   ! Tolerance Multiplier 1.00

   ! Remote Sensing is fillowed

   ! Remote Sensing is fillowed

   i Remote Sensing is fillowed

12. Re-save and compile "analog/r102".



#### Step by step procedures to enable the enhanced log records in a board directory

- Check if the changes are captured by typing "baseline verify on all". The changes are captured showing changes on two files:
  - "analog/R102"
  - "analog/R102.o"

The date/time they were changed was also captured.

🗙 **BASE**							
<u>Status</u> :							
<mark>b</mark> aseline veri	fy on all				analog	4092	
Directory: Host: At Baseline:	C:/Agilent_ a0062102.s	_ICT/board gp.agilen1	ts/apple-eye/ t.com	demo-bd			
Created: Created Bu:	Fri Oct 26	12:39:28	2007				
Found:	2 CRC matcl	n errors (	out of 961 fi	les.			
File: analog/ Revision: 1 CRC: 0x70 On Disk: CRC: 0x44 File: analog/ Revision: 1 CRC: 0x37 On Disk: CRC: 0x39 Report Log wr	r102 Created at c8a9d5 Date: 8b20d27 Date r102.o Created at e47f Date: ( 8cbba44 Date itten to "8a	Baseline: : 05030311 e: 0710261 Baseline: 070813174 e: 0710261 aselineRep	: 1 10408 Size: 4 124829 Size: : 1 129 Size: 224 124839 Size: port.txt"	937 4937 1 2241			
recal edit plus	l recall minus	execute	basic	mark	test consult	pb qstats	store line

14. To update the baseline, type a baseline login and login as administrator or proxy.



#### Step by step procedures to enable the enhanced log records in a board directory

15. Do a "baseline update". This will update the baseline on all the files that have changed.



16. Save the baseline updating.



#### Step by step procedures to enable the enhanced log records in a board directory



ninu

execute

# Conclusion

Now, when a test program change is detected during production, a log record is generated detailing this change event so that the change can be properly reviewed. Using a change control process, such an event may either be accepted or corrective action may be taken.

basic

mark

test consult

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Revised: October 6, 2008	

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