

## The Testing tool for EAE (LINC/LDAIII) developers

### The Challenges of Testing

Testing is one area where many sites are still 'manually' repeating on-line and batch tests by 'eyeballing' the results. Often no test scripts exist, so that on-line testing is done from memory, with no guarantees that the same parts of code are tested each time.

Tests are often done by Users - sometimes tests have to be delayed because the relevant User Department is too busy.

Tests may only be carried out to check the implementation of 'new' features - thorough regression testing is often considered a luxury. For most sites, the time and effort required to build and maintain comprehensive test scripts has been prohibitive.

Many of these tests can and should be automated. In fact most tests which currently raise no errors are actually a waste of 'User' time.

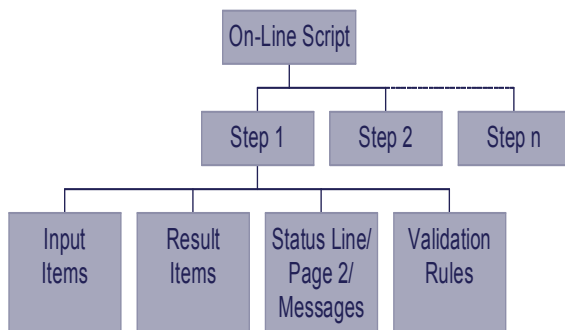
In addition existing Windows based test tools don't understand many of the standard LINC constructs such as Usage Inquiry and Hidden fields.

### How can Acclaim Test Help?

Unlike other testing tools, Acclaim Test has been designed specifically for EAE(LINC/LDAIII) systems. Using Acclaim Test you can build, maintain and replay test scripts quickly and easily for both on-line systems and reports. You can then view the results and see where differences have been highlighted. Developers are then just one click away from the LINC definitions, LINC logic, Test Database values and all the other powerful Acclaim queries and displays.

### Test Scripts for On-Line

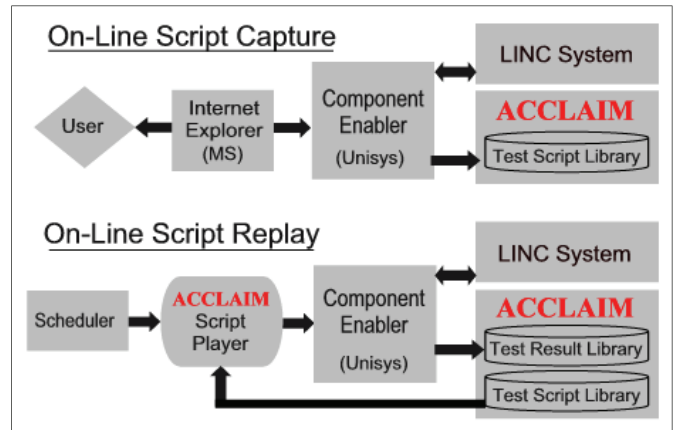
The structure of an On-Line script is shown below - each step represents a LINC transaction (or Message Pair). Validation rules can be specified by default for each screen and these can be further refined for each Test Script step.



### Capturing Test Scripts for On-Line

Test scripts can be built directly from an on-line session. Transactions are run through Internet Explorer using ASP pages generated by Component Enabler (an optional element of EAE). Acclaim captures these transactions and stores them in its Script Library. These can then be replayed or revised whenever required.

The diagram below shows the script capture and replay



### Maintaining Scripts

Updating test scripts to reflect system changes has usually been difficult, has often resulted in scripts falling into disuse and has often led to the abandonment of automated testing.

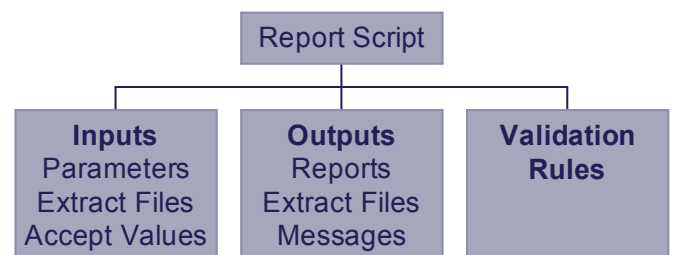
The use of Acclaim's Partial Load facility means that Acclaim knows when changes have occurred, what those changes are and whether script amendment is required.

The use of Component Enabler to replay scripts means that many changes do not affect existing scripts. For example changes to logic, screen text and the layout of Data Items do not affect the script. Even changes to data item lengths, the addition and/or deletion of data items can in most cases require minimal script amendment. Even navigation changes involving the sequence of screens can be easily handled.

Acclaim keeps an automatic cross reference of which Scripts use which screens, so Acclaim can show which scripts need amendment.

### Report Test Scripts

A report Test Script contains the information required to run and check one of the reports in the user's LINC system. It has the following structure:



### Utility Scripts

Acclaim has a set of utilities which can be incorporated as scripts as part of a Test Batch. For example a DB Check utility can be included to verify that the updates & additions to a database file have been performed correctly.

## Management Control

Users can be defined as 'Initiator', 'Reviewer', 'Supervisor' or 'Analyst'. A Test Run is assigned at schedule time for a specific user to review - the user can then add comments and assign the test for further investigation by an analyst or for review or sign off by a supervisor. The status of all tests and work scheduled for

## Running Test Scripts & Reviewing Results Test Batches

A set of On-Line, Report & Utility Scripts are collected together to form a Test Batch. Test Batches are first 'verified' so that all expected results and outputs can be collected and saved for later comparisons with Test Runs.

Minor script changes only require a re-verification of the Test Batch to update the expected results.

## Test Runs

A Test Batch can be run unattended and scheduled to run whenever convenient. The assigned 'reviewer' is then able to review the results on-line through Acclaim.

## Test Review

In the screen below, all the tests 'for review' by user 'REVIEWUSER' are displayed. Tests with errors are easily spotted - see the third column.

Batch	Test	Errs	Run Date	Time	Description
003000	000000		2001/09/12	15:09	SOLIHULL TEST
003000	000010	4	2001/09/12	16:14	SOLIHULL TEST
003000	000011	4	2001/09/12	16:20	SOLIHULL TEST
003100	000000		2001/09/12	21:53	DEBUG TEST
003100	000001	8	2001/09/12	21:54	DEBUG TEST
003100	000002	8	2001/09/12	22:19	DEBUG TEST
003100	000003	8	2001/09/12	22:43	DEBUG TEST
003200	000001	14	2001/09/13	11:31	DEBUG 2 TEST
003300	000001	2	2001/09/13	11:47	DEBUG TEST 3
003300	000002	2	2001/09/13	13:10	DEBUG TEST 3
003300	000003	2	2001/09/13	13:17	DEBUG TEST 3
003300	000004		2001/09/13	13:23	DEBUG TEST 3

## Investigating Errors

To investigate the errors shown in the screen above, you simply select a Test Batch and drill down to the scripts (see 1st screen below) and the steps within a script (see 2nd screen below). You can then see at which steps the errors occurred.

Elt	Scr/Rep	Type	Errs	O/p	Ext	Description
000100	000057	OnLn	1			SOLIHULL DEMO
000200	000003	Rept	1	V		VTYPE LISTING
000300	000004	Rept				Extract VTYPE dat
000400	000012	Util	2			Compare DataBase

Elt	Script	Step	Input	Retrn	Err	Description
000100	000057	000100	HI		X	MENU
000100	000057	000200	MENU	VTYPE		Main menu
000100	000057	000300	VTYPE	VTYPE		Vehicle Types
000100	000057	000400	VTYPE	VTYPE		Vehicle Types
000100	000057	000500	VTYPE	VTYPE	1	Vehicle Types
000100	000057	000600	VTYPE	VTYPE		Vehicle Types
000100	000057	000700	VTYPE	VTYPE		Vehicle Types
000100	000057	000800	VTYPE	VTYPE		Vehicle Types
000100	000057	000900	VTYPE	BVE		Vehicle Types

Clicking on one of the steps on the previous screen you can view the screen image and it's data content - see

Item Name	Value	Ed	Usage	Col	Attributes
FEE	4.50		NS,2	1-0	14,29 Err

Then see the actual versus expected results for the elements:

R/w	Cl	Item	Validte	Expected Value	Actual Value
01	01	TOP-LINE	Ignore	VTYPE000004SEP1101	VTYPE000004SEP1101
01	22	ACTH	Ignore	0105	0105
01	23	MAINT	OK	ING	ING
01	81	DDAY	Ignore	TUE	TUE
01	85	DAT	Ignore	11	11
01	70	MMONTH	Ignore	SEP	11
01	75	YEAR	Ignore	01	01
02	14	COMPANY	OK	Unisy	Unisy
02	41	LOGO	OK	@C:\CARS\LOGO.BMP@005	@C:\CARS\LOGO.BMP@005
04	11	ACTION	OK		
12	23	V-CLASS	OK	PKU	PKU
14	29	FEE	Errort	4.00	4.50
16	29	DESC	OK	PICKUP TRUCK	PICKUP TRUCK
25	01	Status	OK	Inquiry Request	Inquiry Request

And from here the Usage button takes you straight to the Logic Lines referenced by the selected screen data item.

## What are the Benefits?

- Fully integrated with the other Acclaim modules
- Test is one click away from the logic
- Database Query module provides access to your run-time database
- Reduced Test Cycle times = quicker to market
- Competitive advantage
- Increased Test Coverage
- Improved quality
- Increased user and customer satisfaction
- Reduced use of Help Desk
- Consistency
- Reduced staff training/familiarisation

## Take a Test Drive

We are confident that you will find that ACCLAIM Test is the easiest and most cost effective way to do LINC unit and regression testing. Try it on your own system - call us for details.