

Free and Cheap Test Tools

CHEAP AND FREE TEST TOOLS

RANDALL W. RICE, CTAL

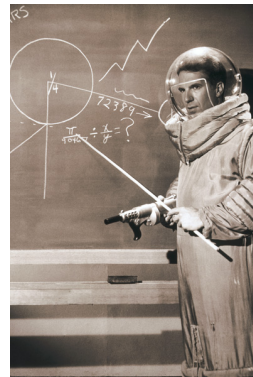
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AT THE START

- **This will be an interactive session**
 - Some demos and videos
- **Screenshots**
- **Helpful hints**
- **I get no compensation from tool vendors, but I do get review licenses for some of the tools.**



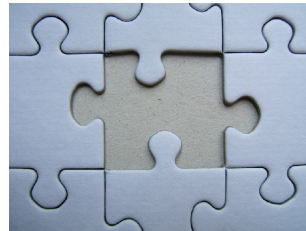
2



Free and Cheap Test Tools

WE CAN'T COVER ALL TOOLS

- **I focus on tools you may not have heard about.**
- **I welcome hearing about free and inexpensive tools you have found helpful.**
 - At the end of each tool type, I'll ask for your suggestions about other tools.



3

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CONSTRAINTS

- **You may find it hard to get your management to consider using an open-source or free tool.**
- **Some companies are heavily invested in commercial tools (that may or may not be the best ones for you), so they keep out any other options.**



4

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THINK ABOUT COMMERCIAL TOOLS

- **Security**
 - Do commercial tools have security issues?
- **Vendor certainty**
 - Are larger vendors acquired?
- **Direction of the tool**
 - Do major tools fade away?
- **Support levels**
 - Are major tools well-supported?



7

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WHAT'S THE ANSWER?

- **Keep an open mind.**
- **You can be successful with a wide variety of tools if you get a "best fit" for your needs.**
- **Price is not the best way to determine tool quality or applicability to your needs.**



8

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EVALUATIONS

- **Regardless of the tool cost or source, you should do a good evaluation and proof of concept.**
- **Even free tools require an investment of time to:**
 - Learn
 - Install
 - Maintain



9



YOUR PERSONAL TOOLKIT

- **As a tester, it's good to have your own set of test tools.**
 - You don't get locked into one tool set.
 - You can learn on your own.
 - You can be a value-added resource in your company concerning test tools.
 - You can take your tools wherever you go!



10



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TOOL TYPES WE WILL COVER

- **Test Design**
- **Test Execution**
- **Test Frameworks**
- **Performance Testing and Monitoring**
- **Test Management**
- **Test Data**
- **Test Evaluation**
- **Defect Tracking**
- **Special Applications – SOA, Load testing, Web testing**

11



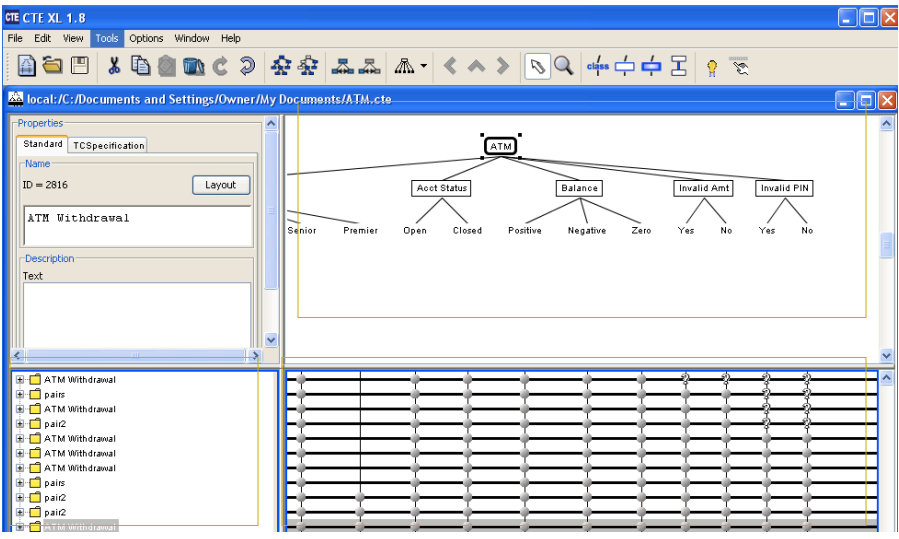
TEST DESIGN

- **CTE-XL for classification trees**
- **ACTS - www.nist.gov**
- **AllPairs – www.satisfice.com**
- **PICT – www.microsoft.com**
- **More at www.pairwise.org**

12



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The screenshot displays the CTE XL 1.8 software interface. The main window shows a classification tree for 'ATM' with the following structure:


- ATM
 - Acct Status
 - Senior
 - Premier
 - Open
 - Closed
 - Balance
 - Positive
 - Negative
 - Zero
 - Invalid Amt
 - Yes
 - No
 - Invalid PIN
 - Yes
 - No

The Properties panel on the left shows the following details:

- Standard: TCSpecification
- Name: ATM Withdrawal
- ID: 2816
- Description: Text

The bottom panel displays a list of generated test cases, including 'ATM Withdrawal', 'pairs', and 'pair2'.

13



CTE-XL

- **www.berner-mattner.com**
- **Free version still available**
 - However, the test case generation function (the best part) has been moved to the "pro" version ~ \$2,500/seat.
- **Pro version with extended functionality**
- **Based on the classification tree approach**
- **Generates test cases in a variety of ways.**

14



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CTE XL 1.8

local:/C:/Documents and Settings/Owner/My Documents/ATM.cte

properties: Standard TCSpecification

Name: ATM Withdrawal

ID = 2816

Description: Text

ATM

- Acot Status
 - Senior
 - Premier
 - Open
 - Closed
- Balance
 - Positive
 - Negative
 - Zero
- Invalid Amt
 - Yes
 - No
- Invalid PIN
 - Yes
 - No

ATM Withdrawal

- pairs
- pairs.Testcase 1
- pairs.Testcase 2
- pairs.Testcase 3
- pairs.Testcase 4
- pairs.Testcase 5
- pairs.Testcase 6
- pairs.Testcase 7
- pairs.Testcase 8

	Acot Status	Balance	Invalid Amt	Invalid PIN
pairs.Testcase 1				
pairs.Testcase 2				
pairs.Testcase 3				
pairs.Testcase 4				
pairs.Testcase 5				
pairs.Testcase 6				
pairs.Testcase 7				
pairs.Testcase 8				

15

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FREE MIND

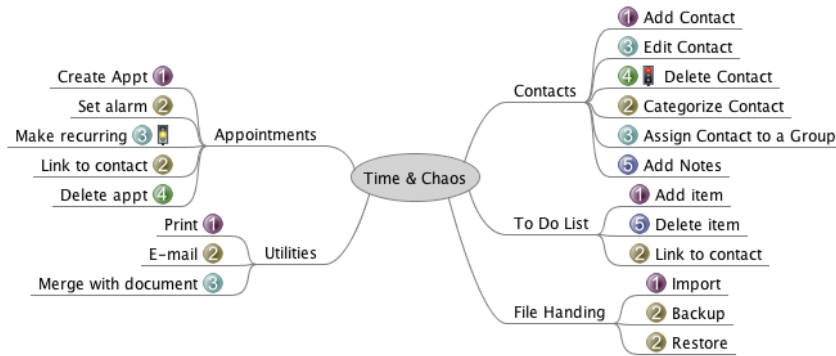
- **Mind mapping for test case design**
- **Windows, Linux and Mac versions**
- **Open source**
- **freemind.sourceforge.net**

16

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FUNCTIONAL DECOMPOSITION WITH FREE MIND

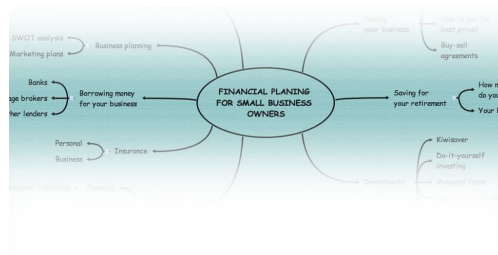


17



XMIND

- Xmind is an open source tool for mindmapping, brainstorming and much more.
- Free and Pro versions
- Mac, Windows, Linux
- <http://www.xmind.net/>

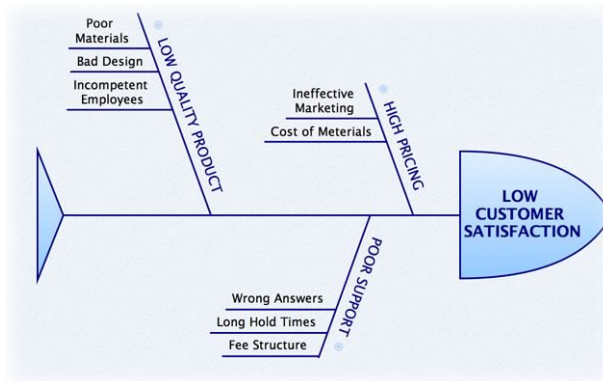


18



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XMIND (2)



Fishbone Diagram

19



XMIND (3)



Gantt View

20



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XMIND (4)



Online Sharing

21



MINIMAL ESSENTIAL TEST STRATEGY (METS)

- **Developed by Greg Paskal**
 - www.gregpaskal.com
- **A way to quickly define features and functions to be tested by levels of criticality.**
- **Test time can be estimated along with potential defect severity.**
- **Also available as an iPhone app.**



22



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PHYSICAL ITEMS

- “Items” to be tested that can be “touched”.
 - Examples: Buttons, web pages, etc.
- These enable functionality, but are not the functions.
- These have attributes at various levels of criticality:
 - Example: Images
 - Critical: Image is present
 - High: Image is correct
 - Med: Image loads quickly (size)
 - Low: Image is clear



23



	A	B	C	D	E
1	METS <small>Methodology Learning Strategy</small> Physical Test Grid 				
3	Category	Critical	High	Medium	Low
4	Pages	Page completes loading	Loading completes in a reasonable amount of time	Page loading consistent between browser versions	Page loading time reasonable under load
5		Graphics, text and other elements seem to be in correct locations	Page has logical flow	Color contrast issues	
6	Graphics	Graphics loading completely	Graphics completed loading within same time frame	Consistently loading every time	
7		Scaling, cropping or image quality problems	Highly artifact (distorted) image quality	Unpredictable color rendering at various bit depths	Non-browser safe color pallet used
8		Rollover graphics displaying correctly	Graphic rollover state providing correct transition illusion	Preloaders working correctly for quick screen redraw	
9		Graphical text within graphic is legible	Correctly spelled text within graphic		
10	Forms	Dropdown menus are functional	Dropdown menu contains all desired options	Submitted form contains dropdown menu selection(s)	
11			Dropdown items are spelled correctly		
12		Radio Buttons are functional	Radio button effect, turning off related radio buttons is working	Submitted form contains radio button selection	
13			Radio buttons are spelled correctly		
14		Checkboxes are functional	Selection of multiple checkboxes is possible	Submitted form contains checkbox selection(s)	
15			Checkbox text is spelled correctly		
16			Text field and boxes are functional	Text field and boxes have correctly spelled default text	Text fields allow enough room for a typical data entry
17			Submitted form contains text field and text box information		

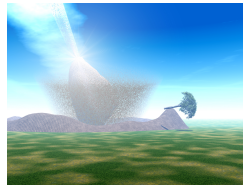
24



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PHYSICAL TEST METRICS

- **Shows for each item:**
 - Estimated time required for testing
 - Estimated impact severity



25



	A	B	C	D	E	
1	METS Methodical Essential Testing Strategy				Physical Test Metrics	
3	Test	Category	Importance	Time Required	Potential Severity	
4	Page completes loading	Pages	Critical	1	1	
5	Graphics, text and other elements are in correct locations	Pages	Critical	2	4	
6	Page loading completes in a reasonable time.	Pages	High	1	3	
7	Page has intuitive and logical flow.	Pages	High	2	4	
8	Page loading is consistent between browser versions	Pages	Medium	3	2	
9	Page has color contrast problems.	Pages	Medium	1	4	
10	Page loading time reasonable under load.	Pages	Low	60	2	
11	Graphics loading completely	Graphics	Critical	1	3	
12	Scaling, cropping or image quality problems	Graphics	Critical	1	3	
13	Rollover graphics displaying correctly.	Graphics	Critical	2	3	

26




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FUNCTIONS

- **“Actions” to be tested.**
 - Examples: Create, cancel, query, etc.
- **These are things the application can “do.”**
- **Example: Shopping cart functions**
 - Critical: Can an item be placed into the cart?
 - High: Can multiple items be put into shopping cart?
 - Medium: Do items consistently carry through purchase session?
 - Low: Are related products shown?

27



	A	B	C	D	E
1	METS <small>Microsoft Essential Testing Strategy</small> Functional Test Grid 				
3	Category	Critical	High	Medium	Low
4	Accounts	Creating an account possible	Can user change account details such as shipping address.	Can user delete an account?	
5		Logging into an account possible.	Can user request forgotten login information?	Does account time out require re-login after specified inaction?	Is the user notified when why they must re-login?
6	Shopping Cart	Can an item be placed into the cart?	Can multiple items be put into shopping cart?	Do items consistently carry through purchase session?	Is tax being calculated correctly?
7		Can an item be removed from the cart?	Does cart reflect removed item correctly	Are removed items affecting the subtotal, total or tax?	
8			Can more than one item be removed at a time?		
9	Product Catalog	Can user get to online catalog?	Does online catalog reflect entire product line?	Can user sort catalog items buy price, size or color?	Does the catalog item reflect the product being sold?
10	Trans- actional	Can user place an order?	Can user back out of an order?	Does using the browser back button effect the order transaction?	Is the user notified when a transaction is complete?
11			Can user save an order for later?	When user comes back to saved order is it accurate in items in cart and pricing?	
12	Search	Can user search from home page?	Do the search results link correctly to the found content?	Is the found content logical to the original search?	Were search results sorted according to the business rules?

28



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METRICS

- Based on estimated test time and assessed potential impact severity.
- Items are assessed by:
 - Direct testing
 - Test pertaining to the obvious change or fix.
 - Related testing
 - Test pertaining to areas that may be impacted by the changes made.
 - Regression testing
 - Test you would run on the application regardless of what has changed.

29



METS FUNCTIONAL TEST METRICS

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	METS												
	Functional Test Metrics												
3	Test	Category	Importance	Time Required	Potential Severity	Direct Testing	Related Testing	Regression Testing			D	R	B
4	Creating an account possible	Accounts	Critical	5	1	x					5		
5	Logging into an account possible.	Accounts	Critical	1	1		x					1	
6	Can user change account details such as shipping address.	Accounts	High	5	3		x					5	
7	Can user request forgotten login information?	Accounts	High	5	3		x					5	
8	Can user delete an account?	Accounts	Medium	3	3			x					3
9	Does account time out require re-login after specified inaction?	Accounts	Medium	10	3		x					10	
10	Is the user notified when why they must re-login?	Accounts	Low	10	4		x					10	
11	Can an item be placed into the cart?	Shopping Cart	Critical	1	1			x					1
12	Can an item be removed from the cart?	Shopping Cart	Critical	2	2	x						2	
13	Can multiple items be put into shopping cart?	Shopping Cart	High	2	2								
14	Does cart reflect removed item correctly	Shopping Cart	High	3	2								
15	Can more than one item be removed at a time?	Shopping Cart	High	3	4								
16	Do items consistently carry through purchase session?	Shopping Cart	Medium	10	1								

30



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METS FUNCTIONAL TEST METRICS (2)

37	Does the download work correctly once on the customers computer?	File Down-loading	High	5	1																
38	Is the download easy to locate?	File Down-loading	Medium	2	4																
39	Are the file size(s) and operating system requirements correct?	File Down-loading	Low	5	4																
40	Can a customer upload a file?	File Up-loading	Critical	5	2																
41	Is the upload functionality providing an intact file on the business side once upload is complete?	File Up-loading	High	10	2																
42	Is the file correctly restorable back to the originating customer and/or order?	File Up-loading	Medium	10	2																
43	Are the upload instructions clear and understandable?	File Up-loading	Low	5	4																
44																					
45																					
46																					
47																					
48																					
49																					
										Totals											
										Quantity		Time									
										2		5		2		7		31		4	

31



METS TIME BUDGETER

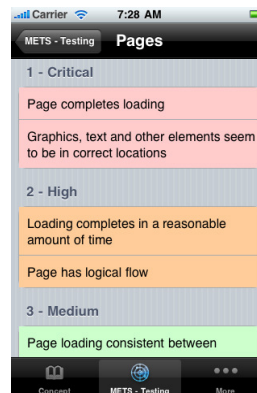
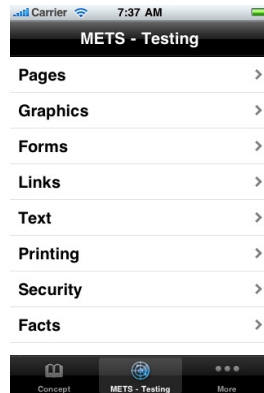
Time Budgeter				
Time available for testing: <input type="text" value="4.00"/>				
Description	Budgeted %	Time Budgeted	Time Utilized	Time Still Available
Direct Testing	25%	1.00	0.07	0:53
Related Testing	50%	2.00	0.31	1:29
Regression Testing	25%	1.00	0.04	0:56
Totals	100%	4.00	0.42	

32



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METS IPHONE APP



33



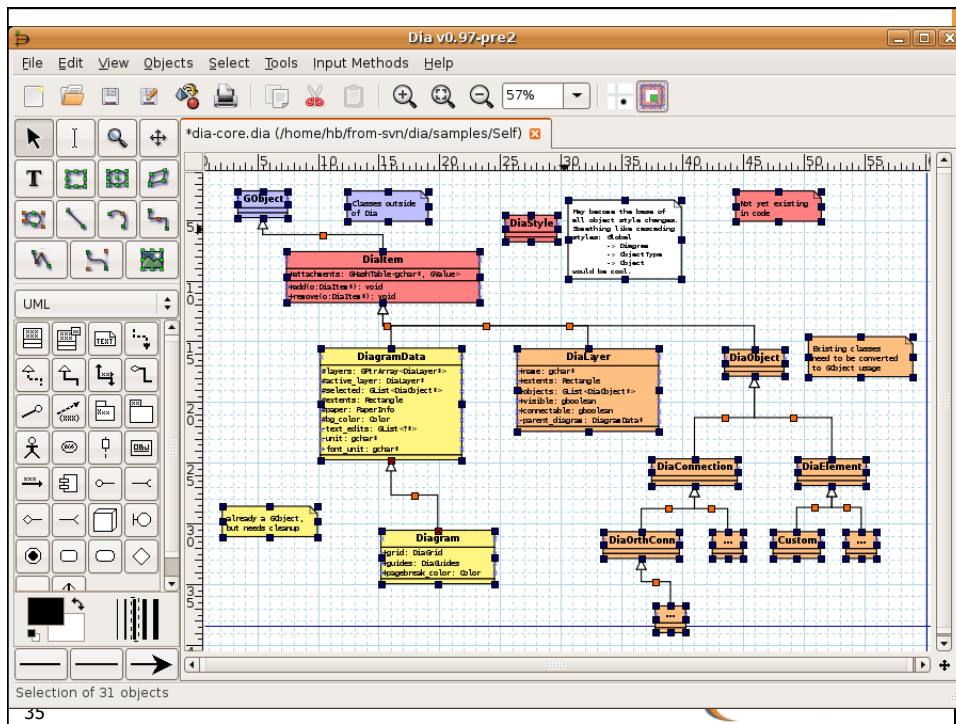
DIA

- **Dia is roughly inspired by 'Visio,' though more geared towards informal diagrams for casual use.**
- **Open Source**
- **Has special objects to help draw entity relationship diagrams, UML diagrams, flowcharts, network diagrams, and many other diagrams.**
- **Can export diagrams to a number of formats, including EPS, SVG, XFIG, WMF and PNG, and can print diagrams (including ones that span multiple pages).**
- **<http://live.gnome.org/Dia>**

34



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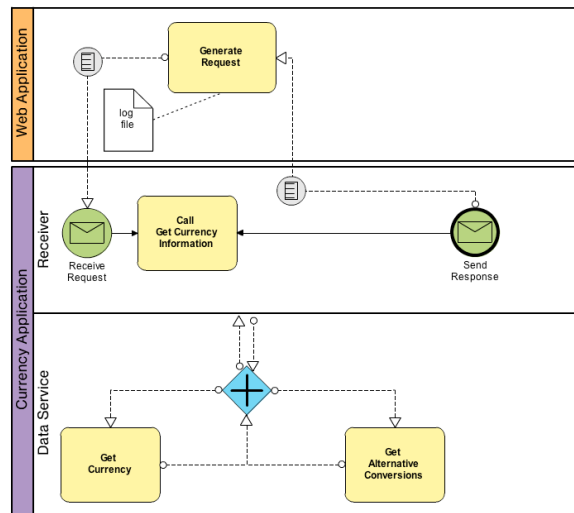


GLIFFY

- **Online diagramming application**
- **Free, standard and pro versions**
 - \$4.95 / month for standard
 - \$9.95 / month for pro
- **www.gliffy.com**

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BUSINESS PROCESS DIAGRAM CREATED IN GLIFFY



37

CONSULTING

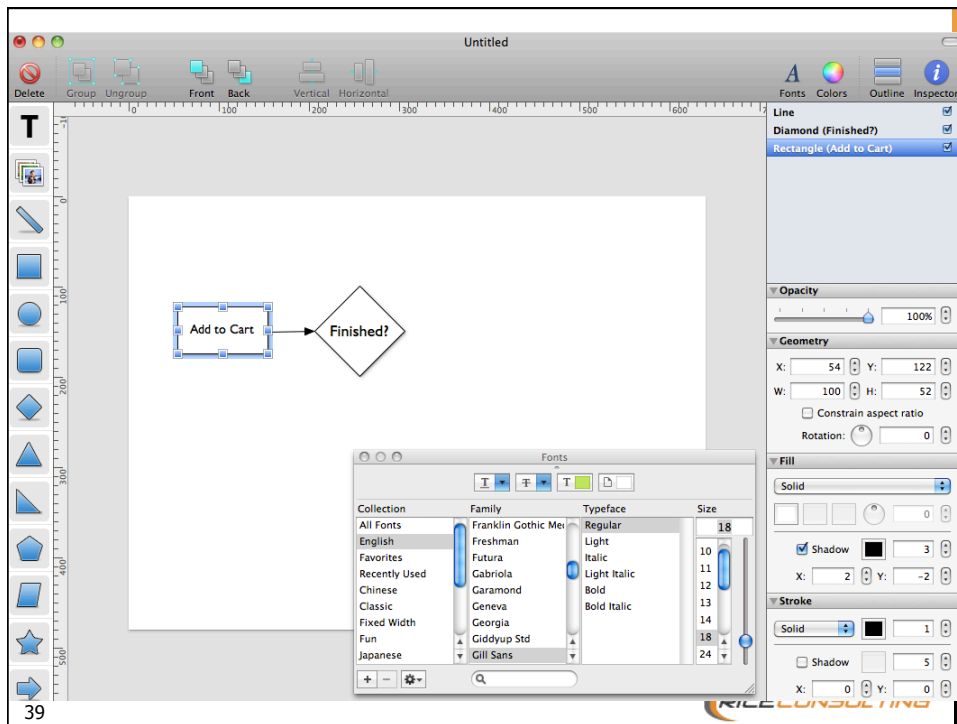
SHAPES

- Diagramming tool for Mac OS X Snow Leopard
- 4.99
- www.shapesapp.com

38

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YED GRAPH EDITOR

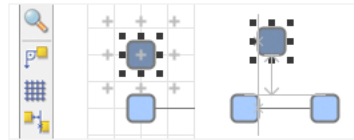
- **yEd is a powerful desktop application that can be used to quickly and effectively generate high-quality diagrams.**
- **Create diagrams manually, or import your external data for analysis.**
- **Automatic layout algorithms arrange even large data sets with just the press of a button.**
- **yEd is freely available and runs on all major platforms: Windows, Unix/Linux, and Mac OS.**

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YED



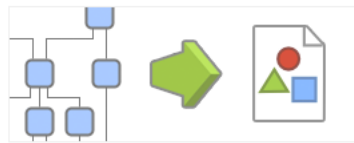
Import your own data from an Excel® spreadsheet (.xls) or XML



Create diagrams with ease via an intuitive user interface.



Automatically arrange your diagram elements.

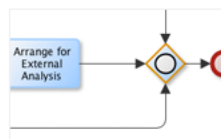


Export bitmap and vector graphics as PNG, JPG, SVG, PDF, SWF

41



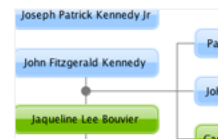
Supported Diagrams



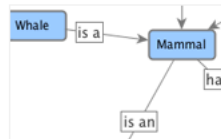
BPMN Diagrams



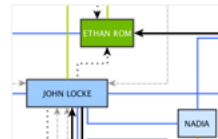
Flowcharts



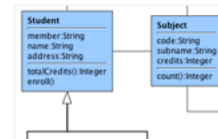
Family Trees



Semantic Networks



Social Networks



UML Class Diagrams

yEd supports a wide variety of diagram types. In addition to the above illustrated types, yEd also supports organization charts, mind maps, swimlane diagrams, Entity Relationship diagrams, and many more.

42

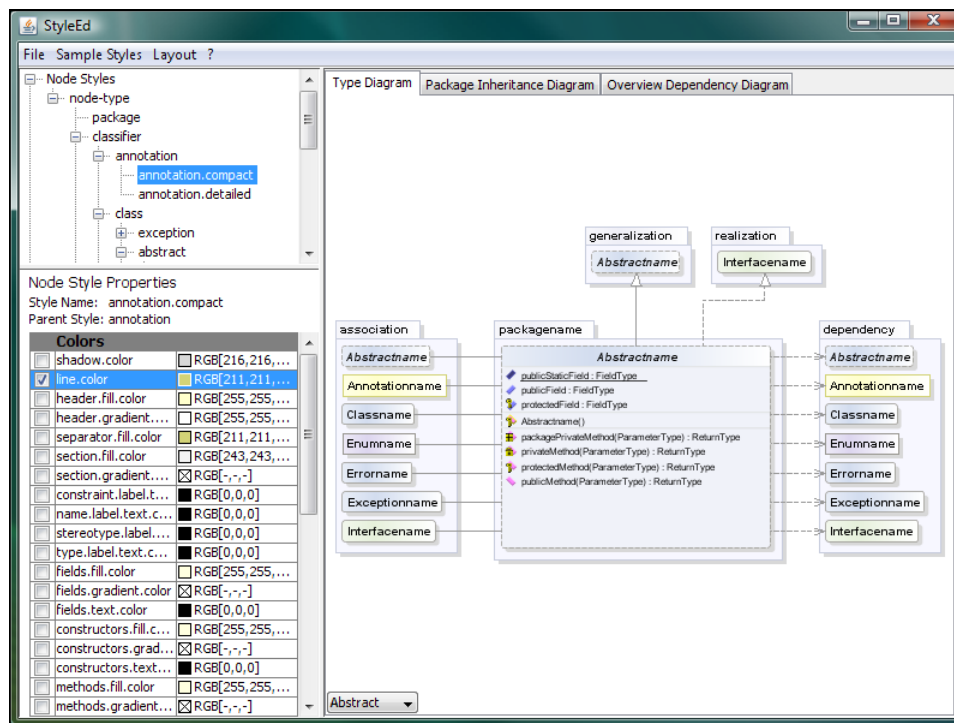


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YWORKS UML DOCLET

- **yWorks UML Doclet**, formerly known as **yDoc**, is a **Javadoc™** extension that automatically generates clear and concise **UML diagrams** from your software project's classes and integrates them into the generated **Java API documentation**.
- **yWorks UML Doclet** makes use of the world-class layout algorithms provided by our graph visualization library **yFiles** to generate the **UML diagrams**.

43



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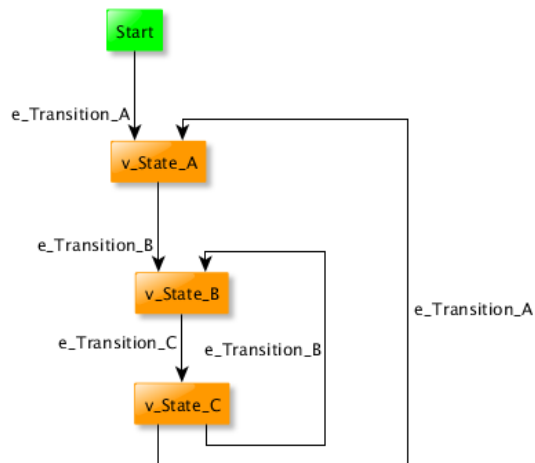
GRAPHWALKER

- <http://graphwalker.org/>
- **GraphWalker is a tool for generating offline and online test sequences from Finite State Machines and Extended Finite State Machines.**
- **The source code is now at github.**
 - <https://github.com/KristianKarl/GraphWalker>

45



SIMPLE FINITE STATE MACHINE MODEL



46



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OTHERS?

- _____
- _____
- _____
- _____
- _____
- _____

47



TEST EXECUTION

- **Macro Scheduler**
 - www.mjtnet.com
 - Windows only
 - Row/Column oriented
 - Has object recognition for some Windows objects
 - Will execute VB Script
 - \$29 to \$195 per individual license
 - \$595 for enterprise license
 - Like capture/playback, but no comparison features
 - Has a very robust scripting language

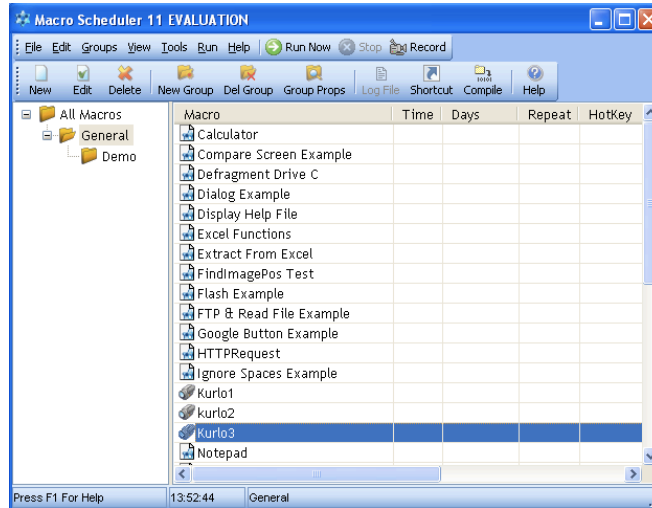


48



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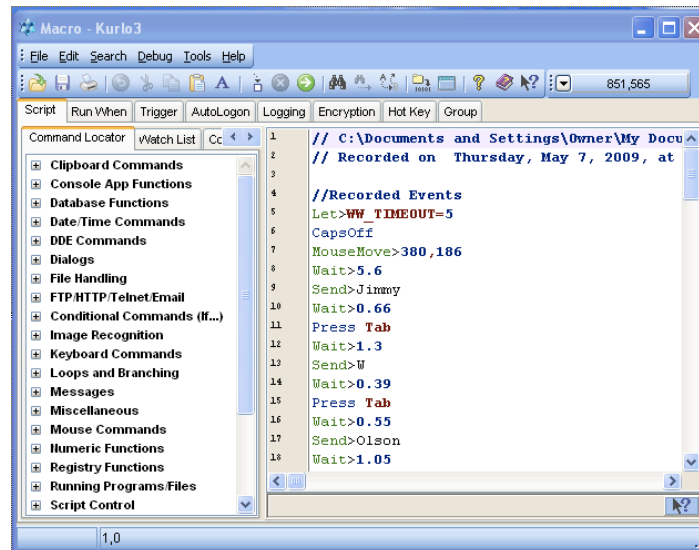
MACRO SCHEDULER MAIN INTERFACE



49



MACRO SCHEDULER SCRIPT EDITOR



50



Free and Cheap Test Tools

EXAMPLE SCRIPT (1)

```
1 // C:\Documents and Settings\Owner\  
2 // Recorded on Thursday, May 7, 20  
3  
4 //Recorded Events  
5 Let>WW_TIMEOUT=5  
6 CapsOff  
7 MouseMove>380,186 ← Row, column  
8 Wait>5.6  
9 Send>Jimmy ← Data  
10 Wait>0.66  
11 Press Tab ← Keystroke  
12 Wait>1.3  
13 Send>W  
14 Wait>0.39 ← Wait time  
15 Press Tab  
16 Wait>0.55  
17 Send>Olson  
18 Wait>1.05  
19 Press Tab  
20 Wait>0.81  
21 MouseMove>369,221  
22 Wait>0.82  
23 LClick  
24 Wait>0.16  
25 MouseMove>348,246  
26 Wait>1.98
```

51



EXAMPLE SCRIPT (2)

```
50 Wait>0.45  
51 LClick  
52 WaitWindowOpen>Address Book Required  
53 MoveWindow>Address Book Required,420,313  
54 ResizeWindow>Address Book Required,307,124  
55 Wait>0.06  
56 MouseMove>576,409  
57 Wait>2.12  
58 LClick  
59 WaitWindowOpen>Jimmy Olson  
60 MoveWindow>Jimmy Olson,246,95  
61 ResizeWindow>Jimmy Olson,655,561  
62 Wait>0.06  
63 MouseMove>644,518  
64 Wait>2.8  
65 LClick  
66 Wait>0.14  
67 MouseMove>788,635  
68 Wait>1.52  
69 LClick  
70 WaitWindowOpen>Kurlo  
71 MoveWindow>Kurlo,-4,-4  
72 ResizeWindow>Kurlo,1032,746  
73 Wait>0.06  
74 MouseMove>929,750  
75 Wait>3.51
```

Object
Recognition

Duplicated
Data

52



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SAMPLE DATA-DRIVEN SCRIPT

```
4 //Specify the path of the file here
5 Let>k=1
6 Label>start
7 ReadLn>c:\kurlo.txt,k,line
8 If>line===EOF###,finish ← Loop
9
10 SetFocus>Kurlo
11 MouseMove>69,7
12 Wait>3
13 LClick
14 Press ALT
15 Send>c
16 Release ALT
17 Wait>1.27
18 Press Enter
19 Wait>3.16
20 Send>%line%
21 Wait>1.33
22 Press Tab
23 Wait>1.3
24 Let>k=k+1
25 ReadLn>c:\kurlo.txt,k,line
26 Send>%line% ← Input to screen
27 Wait>0.49
```

Test Data File →

Read from file →

53



SELENIUM IDE

- **Firefox add-on that records clicks, typing, and other actions to make a test, which you can play back in the browser.**
 - Not just a recording tool: it is a complete IDE.
 - You can choose to use its recording capability, or you may edit your scripts by hand.
 - Autocomplete support and the ability to move commands around quickly.
 - <http://seleniumhq.org>

54



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SELENIUM IDE FEATURES

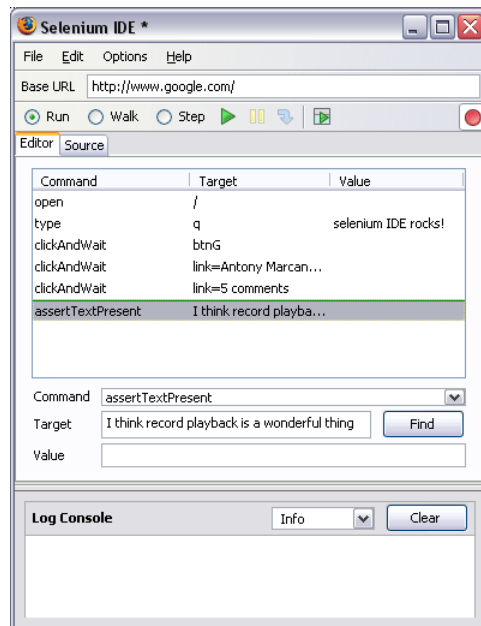
- **Easy record and playback**
- **Intelligent field selection will use IDs, names, or XPath as needed**
- **Autocomplete for all common Selenium commands**
- **Walk through tests**
- **Debug and set breakpoints**
- **Save tests as HTML, Ruby scripts, or any other format**

55



SELENIUM IDE FEATURES (2)

- **Support for Selenium user-extensions.js file**
- **Option to automatically assert the title of every page**
- **NEW! Easy customization through plugins**



56



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IMACROS



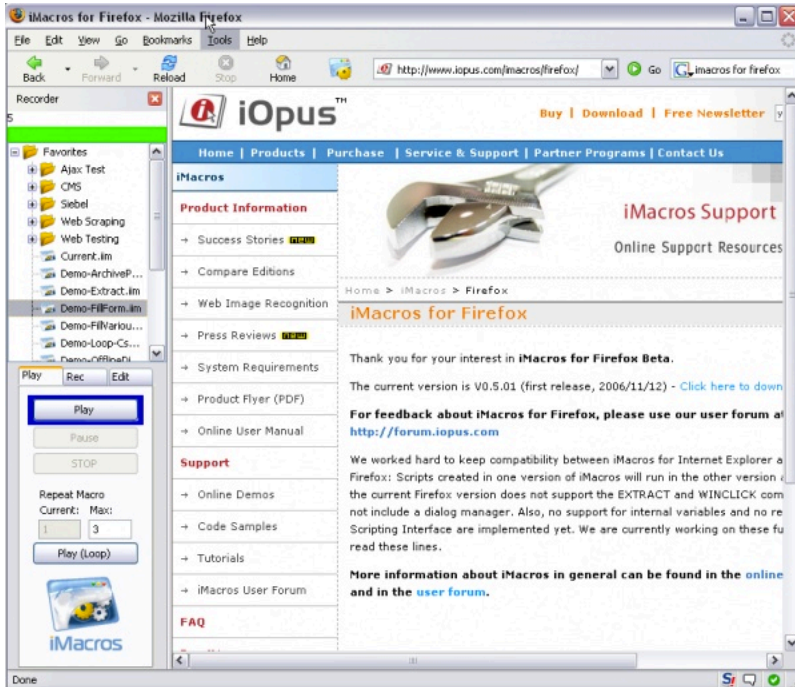
iMacros for Firefox 7.4.0.8

by iOpus

Automate Firefox. Record and replay repetitious work. If you love the Firefox web browser, but are tired of repetitive tasks like visiting the same sites every days, filling out forms, and remembering passwords, then iMacros for Firefox is the solution you've been dreaming of! ***Whatever you do with Firefox, iMacros can automate it.***


+ Add to Firefox

57



58

Free and Cheap Test Tools



The screenshot shows the Mozilla Firefox Recorder interface. The browser window displays a search result for "Yahoo! 奇摩搜尋結果有關汽車". The Recorder toolbar is visible, and the "Edit Steps" window is open, showing the recorded step details:

```
VERSION BUILD=5200814 RECORDER=FF
URL GOTO=http://tw.yahoo.com/
TAG POS=1 TYPE=INPUT:TEXT FORM=NAME:NoFormName ATTR=NAME:p CONTENT=汽車
TAG POS=1 TYPE=INPUT:SUBMIT FORM=NAME:NoFormName ATTR=VALUE:網頁搜尋
TAG POS=1 TYPE=A ATTR=TXT:生活資訊網
```

The number "24" is visible in the Recorder toolbar. A red arrow points to the "Edit Steps" window. The "RICE CONSULTING" logo is in the bottom right corner.

59



The screenshot shows the "Options" dialog box for Macro Recorder, with the "Security" tab selected. The dialog box contains the following text:

Master Password for Macro Password Encryption (256-Bit)
The master password is used to encrypt and decrypt all stored website passwords. The website passwords are encrypted using strong encryption and stored inside the Internet Macros.

Do not encrypt passwords.

***** Enter master password here to STORE it.

Enter Master Password Enter a temporary master password here if you do NOT want to store it. You need to RE_ENTER it everytime you start iMacros and use a website password the first time. More secure, but less convenient.

Encryption can be changed in the macro with SET !ENCRYPTION NO / STOREDKEY / TMPKEY

ok

The "RICE CONSULTING" logo is in the bottom right corner.

60

Free and Cheap Test Tools

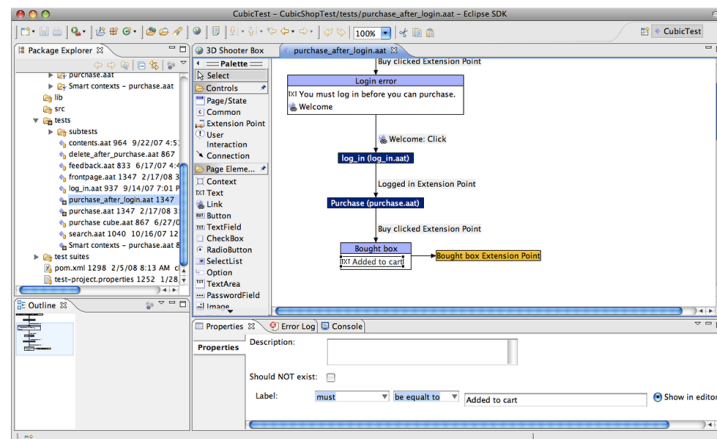
CUBIC TEST

- CubicTest is a graphical Eclipse plug-in for writing Selenium and Watir tests.
- CubicTest's test editor is centered around pages/states and transitions between these pages/states.
- CubicTest features an innovative test recorder and test runner based on Selenium RC which are fully integrated with the graphical test editor.

61



CUBIC TEST (2)

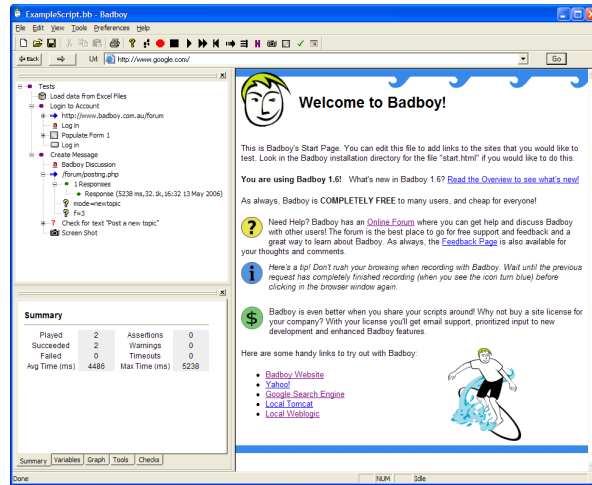


62



Free and Cheap Test Tools

BAD BOY



63



BAD BOY (2)

- **Record/playback**
- **Free for individuals and deployments of 5 computers or less & not-for-profits**
- **\$45/user license fee otherwise**
- **<http://www.badboy.com.au/>**

64



Free and Cheap Test Tools

CUCUMBER

- **Cucumber is a tool that executes plain-text functional descriptions as automated tests.**
- **The language that Cucumber understands is called Gherkin**
- **<http://cukes.info/>**

65



CUCUMBER LANGUAGE EXAMPLE

```
Feature: Search courses
  In order to ensure better utilization of courses
  Potential students should be able to search for courses

Scenario: Search by topic
  Given there are 240 courses which do not have the topic "biology"
  And there are 2 courses A001, B205 that each have "biology" as one of the topics
  When I search for "biology"
  Then I should see the following courses:
  | Course code |
  | A001       |
  | B205       |
```

66



Free and Cheap Test Tools

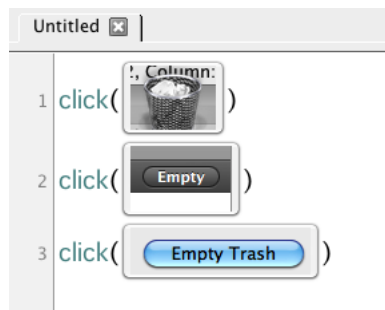
SIKULI

- **Sikuli is an open source visual technology to automate and test graphical user interfaces (GUI) using images (screenshots).**
- **Sikuli includes Sikuli Script, a visual scripting API for Jython, and Sikuli IDE, an integrated development environment for writing visual scripts with screenshots easily.**
- **You can programmatically control a web page, a Windows/Linux/Mac OS X desktop application, or even an iphone or android application running in a simulator or via VNC.**
- **<http://sikuli.org/>**

67



SIKULI SCRIPTING



68

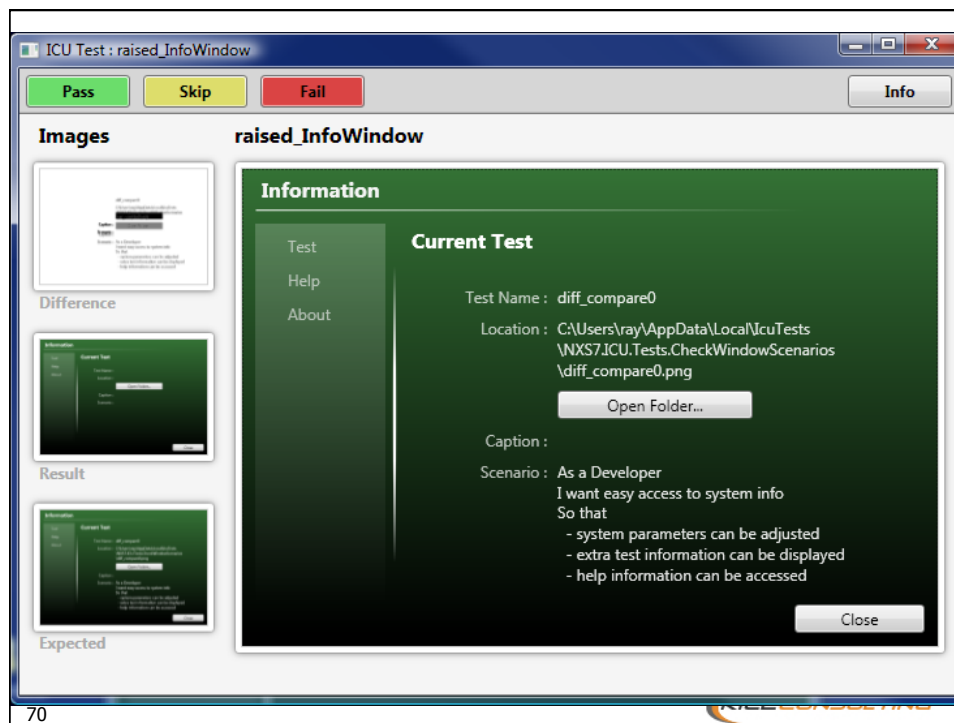


Free and Cheap Test Tools

ICUTEST

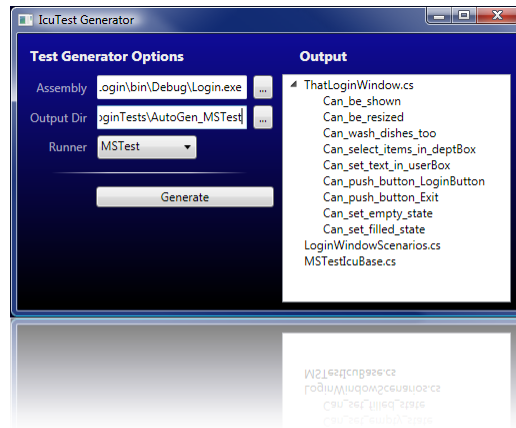
- **GUI Unit testing for Windows Presentation Foundation**
- **Free**
- **Test Generator is a tool that automatically creates GUI unit tests for your application. Just specify your assembly (executable or DLL) and Test Generator will inspect your assembly for UI components and generate unit tests automatically.**
- **<http://www.nxs-7.com/icu/Default.aspx>**

69



Free and Cheap Test Tools

ICUTEST TEST GENERATOR



FAKE

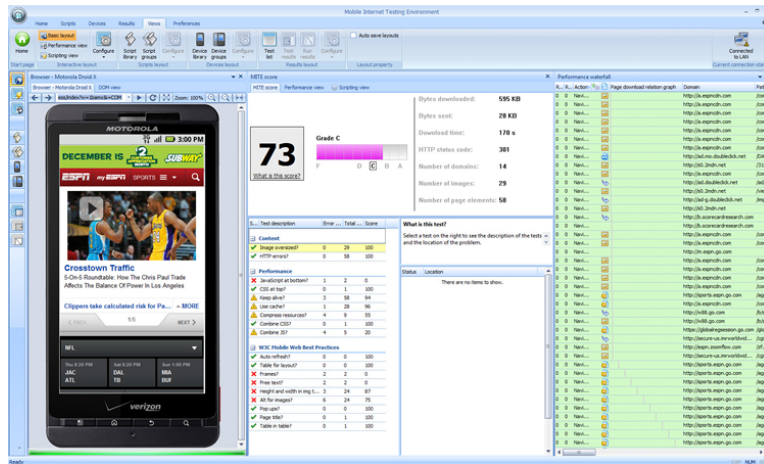
- **Mac OS X Web Test Automation**
 - Forms
 - Screenshot capture
 - Assertions
 - Error handling
- **\$29.95**
- **www.fakeapp.com**

72



Free and Cheap Test Tools

KEYNOTE MITE



73



OTHER FREE TEST EXECUTION TOOLS

- **FitNesse** - <http://fitness.org>
- **WATIR** - <http://watir.com/>
- **Apodora** - <http://sourceforge.net/projects/apodora/>
- **AutoIT** - <http://www.autoitscript.com/autoit3/index.shtml>
- **Auto Hot Key** – www.autohotkey.com
- **Frankenstein** – <http://frankenstein.openqa.org/>
- **WET** - Commercial grade open source Web automation testing tool - <http://wet.openqa.org>
- **Grease Monkey**
 - <http://testertools.com/browsers-based-tools/grease-monkey-web-testing-tool-with-scripts/>

74



Free and Cheap Test Tools

OTHERS?

- _____
- _____
- _____
- _____
- _____
- _____

75



TEST AUTOMATION FRAMEWORKS

- **Our working definition:**
 - A framework is a hierarchical directory that encapsulates shared resources, such as a dynamic shared library, image files, localized strings, header files, and reference documentation in a single package.

76



Free and Cheap Test Tools

OPEN SOURCE FRAMEWORKS

- **Open2Test**
 - <http://www.open2test.org>
- **Robot Framework**
 - <http://code.google.com/p/robotframework/>
- **STAF – Software Testing Automation Framework**
 - <http://staf.sourceforge.net/>
- **SAFS - Software Automation Framework Support (SAS)**
 - <http://sourceforge.net/projects/safsdev/>

77



OPEN2TEST

- **Open2Test is a keyword-driven automation framework that works with HP QuickTest Professional (QTP) and many other test execution tools.**



78



Free and Cheap Test Tools

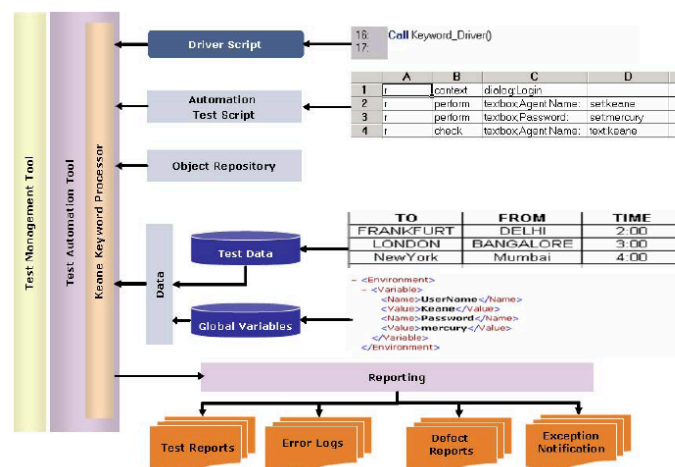
OPEN2TEST (2)

- **Allows testers to develop test cases using Microsoft Excel and a list of keywords.**
- **When the test is executed, the framework processes the Excel workbook and calls functions associated with the keywords entered in the Excel spreadsheet.**

79



FRAMEWORK ARCHITECTURE



80



Free and Cheap Test Tools

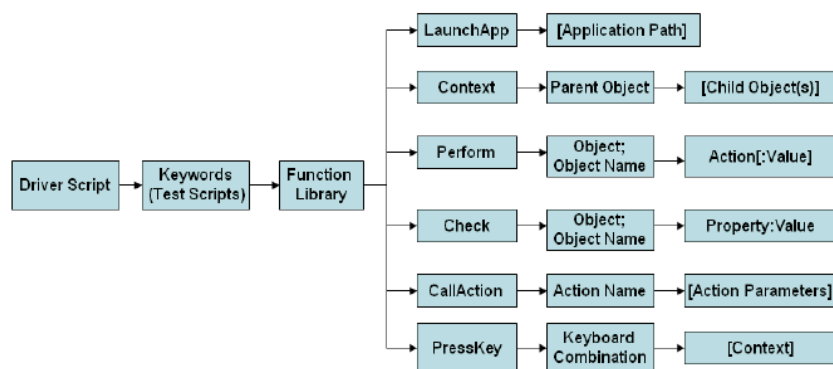
OPEN2TEST (3)

- **These keyword functions in turn perform specific actions against the application under test (AUT).**
 - The framework interprets the keyword and executes a set of statements in the program.

81



FRAMEWORK FLOW



82



Free and Cheap Test Tools

OPEN2TEST (4)

- **With this framework in place, applications can be automated without starting from scratch.**
 - Testers simply use the application independent keywords and create extra application-specific keywords.

83



OPEN2TEST FEATURES

- **Use of variables**
 - Variables can be defined and used across the generated test script.
- **Conditional checking**
 - Conditional constructs such as 'if' can be implemented using keywords to handle different flows based on various conditions.

84



Free and Cheap Test Tools

OPEN2TEST FEATURES (2)

- **Data-driven testing**
 - This framework supports data-driven testing by importing data from an external data sheet.
- **Reports**
 - Customized reporter messages can also be used to perform effective analysis on execution reports.

85



OPEN2TEST FEATURES (3)

- **Calling functions and reusable actions**
 - Common functions or actions can be triggered through keywords.
- **Keyboard inputs**
 - This plug-in is included to perform keyboard actions on the specified test object.

86



Free and Cheap Test Tools

OPEN2TEST FEATURES (4)

- **Date/time functions**
 - The date/time function plug-in is included to perform different operations on date/time.
- **Exception handling**
 - Runtime errors can be effectively handled and reported using this framework.
- **Handling object (Web or windows)**
 - Some operations can be performed on the Web or as a Windows Object using keywords, depending on the execution tool.
- **Learn More at <http://www.open2test.org>**

87



ROBOT FRAMEWORK

- **Robot Framework is a generic test automation framework for acceptance testing and acceptance test-driven development (ATDD).**
- **Has easy-to-use tabular test data syntax and utilizes the keyword-driven testing approach.**
- **Can be extended by test libraries implemented either with Python or Java, and users can create new keywords from existing ones using the same syntax that is used for creating test cases.**

88



ROBOT FRAMEWORK (2)

Running Keyword Conditionally

Setting	Value	Value	Value	Value
Documentation	Adding conditions to test cases should be avoided if possible. However, sometimes that kind of construct is needed. For this purpose BuiltIn library contains keywords "Run Keyword If" and "Run Keyword Unless" which use is demonstrated in this suite.			

Variable	Value	Value	Value	Value
\$(COUNTRY)	Robotland			

Test Case	Action	Argument	Argument	Argument
Running Test Based On The Condition	[Documentation]	If you change \$(COUNTRY) value or give --variable COUNTRY your_country from command line the test is executed differently than with default value.		
	Run Keyword If	'Robotland' == '\$(COUNTRY)'	Hello World	
	Run Keyword Unless	'Robotland' == '\$(COUNTRY)'	Log	Hello \$(COUNTRY)!

89



ROBOT FRAMEWORK (3)

My Test Setup

Arguments: [first | second | msg=None | values=True]

Documentation: [Edit Clear]

Timeout: [Edit Clear]

Return Value: [Edit Clear]

Add Row Add Column

1	Log	Hello from test setup		
2	Shou			
3	Should Be Empty	Builtin		
4	Should Be Equal	Builtin		
5	Should Be Equal As Integers	Builtin		
6	Should Be Equal As Numbers	Builtin		
	Should Be Equal As Strings	Builtin		
	Should Be True	Builtin		
	Should Contain	Builtin		

Arguments: [first | second | msg=None | values=True]

Fails if the given objects are unequal.

- If 'msg' is not given, the error message 'first != second'.

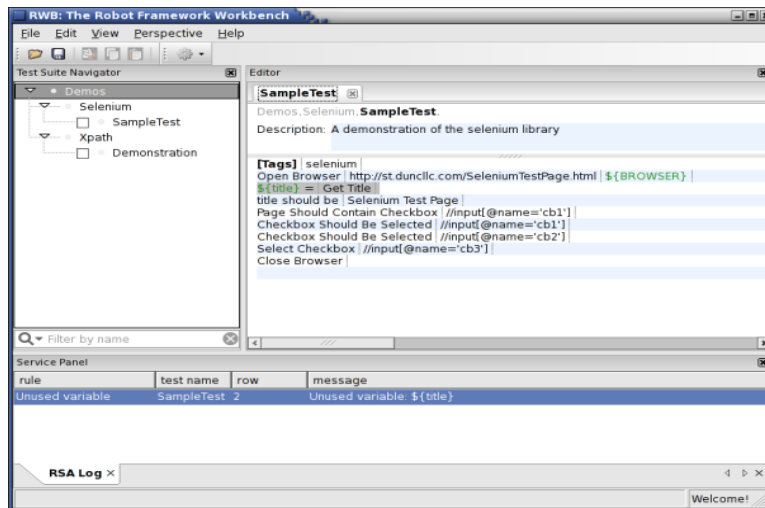
- If 'msg' is given and 'values' is either

90



Free and Cheap Test Tools

ROBOT FRAMEWORK (4)



91



SELENIUM LIBRARY

- SeleniumLibrary is a Robot Framework test library that uses the popular Selenium web testing tool internally.
- It provides a powerful combination of simple test data syntax and support for different browsers.
- In addition to standard web testing, the library also supports testing Adobe Flex/Flash applications.
- <http://code.google.com/p/robotframework-seleniumlibrary/>
- <http://code.google.com/p/robotframework-seleniumlibrary/wiki/Demo>

92



Free and Cheap Test Tools

STAF

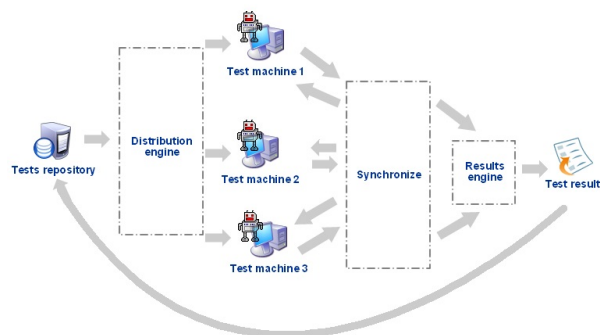
- The **Software Testing Automation Framework (STAF)** is an open source, multi-platform, multi-language framework designed around the idea of reusable components, called **services** (such as process invocation, resource management, logging, and monitoring).
- <http://staf.sourceforge.net/>

93



STAF OVERVIEW

- This is simply an overview of this environment framework.
- You can see full documentation at <http://staf.sourceforge.net/>



94



Free and Cheap Test Tools

STAF OVERVIEW (2)

- **Peer-to-peer pluggable framework geared towards test automation**
- **History**
 - Created at IBM Austin in 1998
 - Corporate funded (via QSE) since 1999
 - Open-sourced (on SourceForge) in 2001
 - Licensed under the Eclipse Public License (EPL) V1.0

95



STAF OVERVIEW (3)

- **User Community**
 - 240+ IBM teams (world-wide)
 - 220+ external companies
 - 280k+ downloads of STAF and associated plug-ins since 4Q/2001
 - Consistently ranked as one of the Top 50 projects on SourceForge.net

96



Free and Cheap Test Tools

STAF OVERVIEW (4)

- **An open source automation framework**
- **A remote test agent to control tests on multiple machines**
- **Designed around the idea of reusable components, called services**
- **Developed by IBM, made open source because of their use in Linux testing**

97



STAF OVERVIEW (5)

- **Runs as a daemon process, called STAFProc, on each system**
- **Operates in a peer-to-peer environment; in other words, there is no client-server hierarchy.**

98



Free and Cheap Test Tools

STAF OVERVIEW (6)

- STAF operates in a peer-to-peer environment; in other words, there is no client-server hierarchy among machines running STAF



99



STAF OBJECTIVES

- **STAF was designed with the following objectives in mind:**
 - Minimum machine requirements - This is both a hardware and a software statement.
 - Easily useable from a variety of languages, such as Java, C/ C++, Rexx, Perl, and Tcl, or from a shell (command) prompt.
 - Easily extendable - This means that it should be easy to create other services to plug into STAF.

100



Free and Cheap Test Tools

STAF OBJECTIVES (2)

- **To make it easier to create automated test cases and workloads.**
- **To increase the efficiency, productivity, and quality of your testing by improving your level of automation and reuse in individual test cases as well as the overall test environment.**

101



STAF AS AUTOMATION TOOLKIT

- **STAF is quick and easy to get started with**
 - Takes less than 3 minutes to get running on most systems
- **STAF is very easy to use**
 - All services have built-in syntax help
 - All services are available from the command line
- **STAF provides many valuable built-in services**
 - Many more are available for download
 - Writing your own services is very straightforward

102



Free and Cheap Test Tools

STAF SUPPORTED PLATFORMS

- **STAF is available for the following platforms**
 - Windows: 2000, 2003, XP, Vista, Server 2008 (Intel, AMD64, IA/64)
 - Linux: All platforms (i386, AMD64, IA/64, PPC64, PPC32, zLinux32, zLinux64)
 - AIX 5.1+ (32- and 64-bit)
 - Solaris 2.6+ + (Sparc 32/64, x64, x86)
 - HP-UX 11.00+ (PA-RISC, IA/64)
 - FreeBSD 4.10+
 - Mac OS X 10.4+ (i386, PPC)
 - OS/400 V5R2+
 - z/OS 1.4+ (32- and 64-bit)

103



STAF SUPPORTED LANGUAGES

- **STAF supports the following languages**
 - Java, C/C++
 - Perl, Python, Tcl, Rexx, Shell-script
 - Ant
 - Command line
- **STAF “feels” the same across all platforms and languages**
- **There is also a command line interface**

104



Free and Cheap Test Tools

THE STAF WEB SITE

- **The main STAF web site is**
 - <http://staf.sourceforge.net>
- **From this web site you can:**
 - Submit bugs and feature requests
 - View the STAF source code
 - Download the STAF binary files
 - Download STAF services
 - View STAF documentation
 - Access Mailing Lists to view, search, and post messages (Help, Announcements)
 - Access Forums to view, search, and post messages

105



Software Testing Automation Framework (STAF)

Welcome to STAF

The Software Testing Automation Framework (STAF) is an open source, multi-platform, multi-language framework designed around the idea of reusable components, called services (such as process invocation, resource management, logging, and monitoring). STAF removes the tedium of building an automation infrastructure, thus enabling you to focus on building your automation solution. The STAF framework provides the foundation upon which to build higher level solutions, and provides a pluggable approach supported across a large variety of platforms and languages.

Latest Releases

- **STAF 3.3.1** (September 24, 2008) ([Download](#))
- **STAX 3.3.4** (September 24, 2008) ([Download](#))

Other STAF Services (provided separately as "add-ons" to the core STAF services):

- **Cron Service 3.3.3** (September 24, 2008) ([Download](#))
- **Email Service 3.3.2** (September 24, 2008) ([Download](#))
- **Event Service 3.1.2** (September 24, 2008) ([Download](#))
- **EventManager Service 3.3.3** (September 24, 2008) ([Download](#))
- **FSExt (File System Extension) Service 3.0.1** (February 27, 2008) ([Download](#))
- **HTTP Service 3.0.1** (September 24, 2008) ([Download](#))
- **NamedCounter Service 3.0.1** (February 27, 2008) ([Download](#))
- **Namespace Service 1.0.1** (February 27, 2008) ([Download](#))
- **SXE (Staf eXecution Engine) Service 3.0.2** (February 27, 2008) ([Download](#))
- **Timer Service 3.0.2** (February 27, 2008) ([Download](#))

STAF can be leveraged to help solve common industry problems, such as more frequent product cycles, less preparation time, reduced testing time, more platform choices, more programming language choices, and increased National Language requirements. STAF can help in these areas since it is a proven and mature technology, promotes automation and reuse, has broad platform and language support, and provides a common infrastructure across teams.

STAX is an execution engine which can help you thoroughly automate the distribution, execution, and results analysis of your testcases. STAX builds on top of three existing technologies, STAF, XML, and Python, to place great automation power in the hands of testers. STAX also provides a powerful monitoring application which allows you to interact with and monitor the progress of your jobs. Some of the main features of STAX are: support for parallel execution, user-defined granularity of execution control, support for nested testcases, the ability to control the length of execution time, the ability to import modules at run-time, support for existing Python and Java modules and packages, and the ability to extend both the STAX language as well as the STAX monitoring application. Using these capabilities, you can build sophisticated scripts to automate your entire test environment, while ensuring maximum efficiency and control.

106



Free and Cheap Test Tools

Software Testing Automation Framework (STAF)

Download STAF V3

The latest releases for STAF V3 can be downloaded from this page. If you want to download the latest releases for STAF V2, go to the [Download STAF V2](#) page instead. Earlier releases of STAF can be accessed from the ["See All Releases"](#) page.

See the [STAF V3 History](#) page for STAF V3 history information.

See the [STAF V3 Overview](#) if you are migrating from STAF V2 to get more information on major new enhancements in STAF V3.

See the [Getting Started with STAF V3 Guide](#) for more information about how to get started using STAF V3.

See the [Programmatically retrieving the latest STAF releases](#) page for more information about how to programmatically retrieve the latest STAF releases.

Binaries

The recommended installation method for STAF is to use InstallAnywhere (IA). However, if we haven't yet provided an InstallAnywhere file, use the GNU zipped or compressed tar file, if provided, to do a STAFInst install.

See the [STAF V3 Installation Guide](#) for more detailed instructions for installing STAF V3.

The latest STAF V3 release is STAF V3.3.1. Files which are not at the latest release level are marked with an asterisk (*).

Note that AMD64 is also commonly known as x86-64 or x64 or Opteron 64-bit. AMD64 should not be confused with the Intel Itanium architecture, also known as IA-64, which is not compatible on the native instruction set level with the AMD64 architecture.

Operating System (Architecture)	Java Support	Release	File	File format	File size
Win95/98/Me/NT/2000/XP/2003/ Vista/WinSrv2008 (32-bit)	32-bit	3.3.1	STAF331-setup-win32.exe	InstallAnywhere (Bundled JVM)	47M
Win95/98/Me/NT/2000/XP/2003/ Vista/WinSrv2008 (32-bit)	32-bit	3.3.1	STAF331-setup-win32-NoJVM.exe	InstallAnywhere (No JVM)	13M
Windows Server 2003/2008 (IA64)	64-bit	3.3.1	STAF331-setup-win64.exe	InstallAnywhere (Bundled JVM)	52M
Windows Server 2003/2008 (IA64)	64-bit	3.3.1	STAF331-setup-win64-NoJVM.exe	InstallAnywhere (No JVM)	15M
Windows Server 2003/2008, Vista (AMD64, aka x64)	64-bit	3.3.1	STAF331-setup-winamd64.exe	InstallAnywhere (Bundled JVM)	54M

107



PERFORMANCE TESTING & MONITORING TOOLS

- **Paessler Web Server Stress Tool**
- **SmartInspect**
- **loadUI**
- **SOASTA CloudTest Lite**
- **BrowserMob**

108

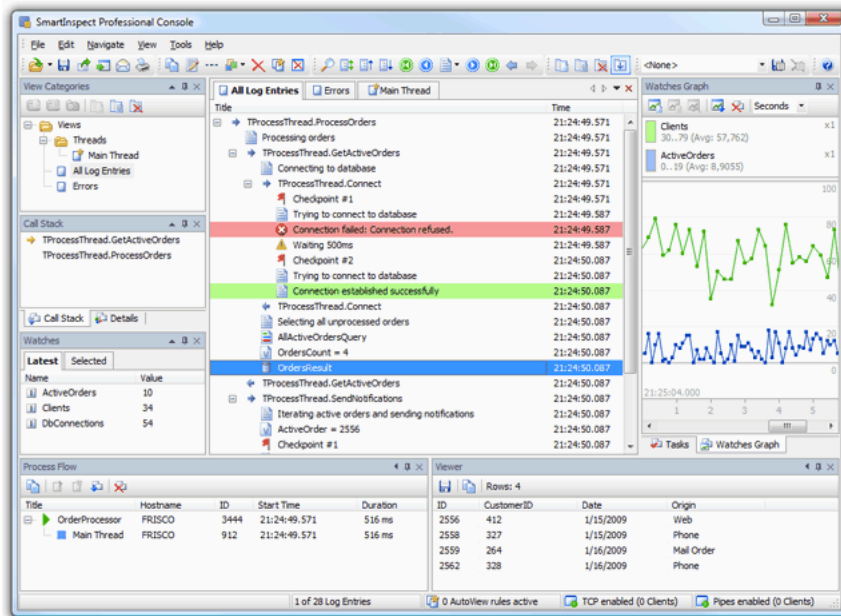


Free and Cheap Test Tools

SMARTINSPECT

- **.NET, Java and Delphi logging tool for debugging and monitoring software applications.**
- **Helps identify bugs, find solutions to user-reported issues and gives a precise picture of how software performs in different environments.**
- **One-time license**
 - \$299 single user
- **<http://www.gurock.com/smartinspect/>**

109



110



Free and Cheap Test Tools

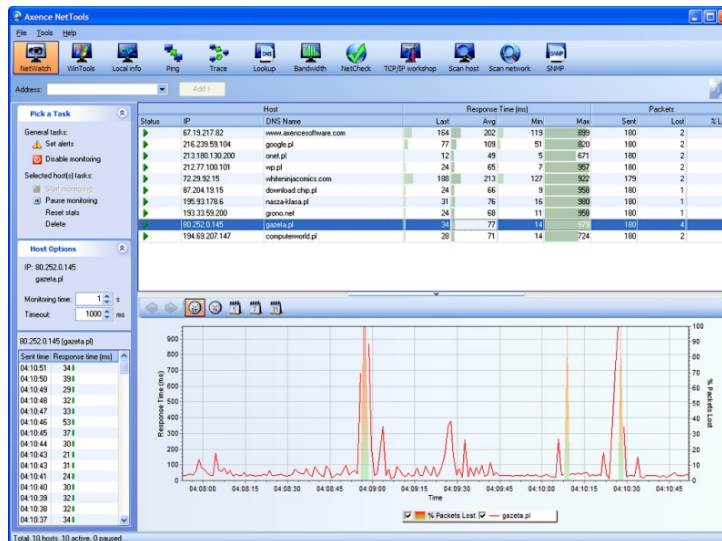
NETWORK MONITORING

- **Axence NetTools Pro – www.axencesoftware.com**
- **FREE and very comprehensive set of network administration tools:**
 - NetWatch - network monitoring with alerting, real-time & historical charts;
 - WinTools lists exhaustive system information from Windows computers;
 - Port scanner; network scanner;
 - NetStat lists local inbound & outbound connections;
 - TCP/IP workshop for low level service testing; ping; fast traceroute;
 - DNS lookup; bandwidth test tool; SNMP browser and more.

111



AXENCE NETTOOLS PRO



112

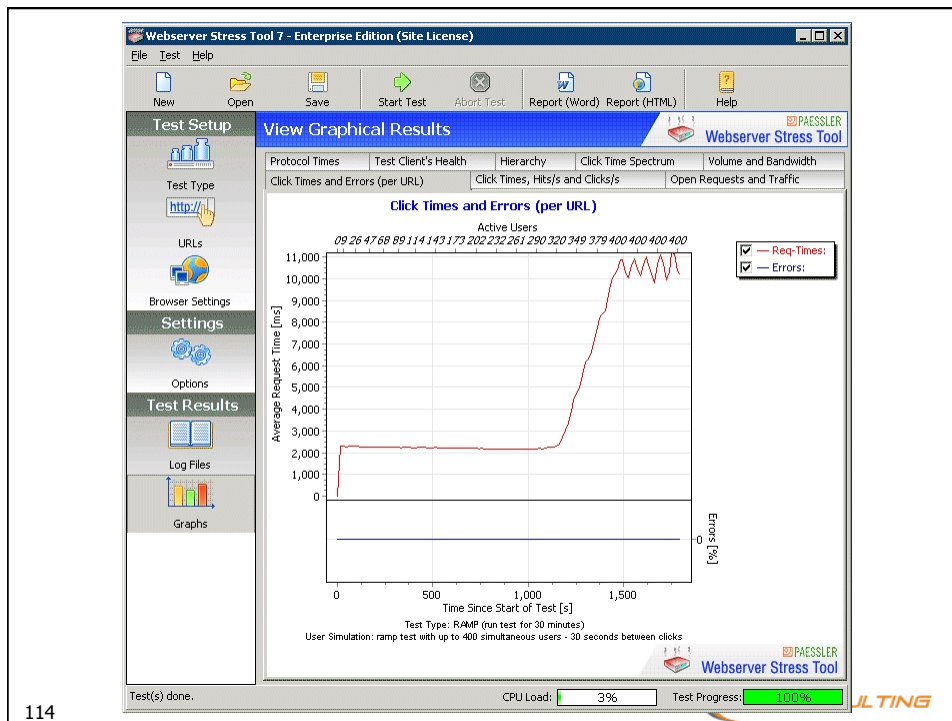


Free and Cheap Test Tools

PAESSLER WEB SERVER TEST

- **www.paessler.com**
 - Pro edition single user - \$249
 - 100 Concurrent virtual users
 - Enterprise edition single user - \$750
 - Up to 10,000 concurrent virtual users
 - Enterprise edition 5 user - \$1,449
 - Enterprise edition site license - \$2,895

113



114

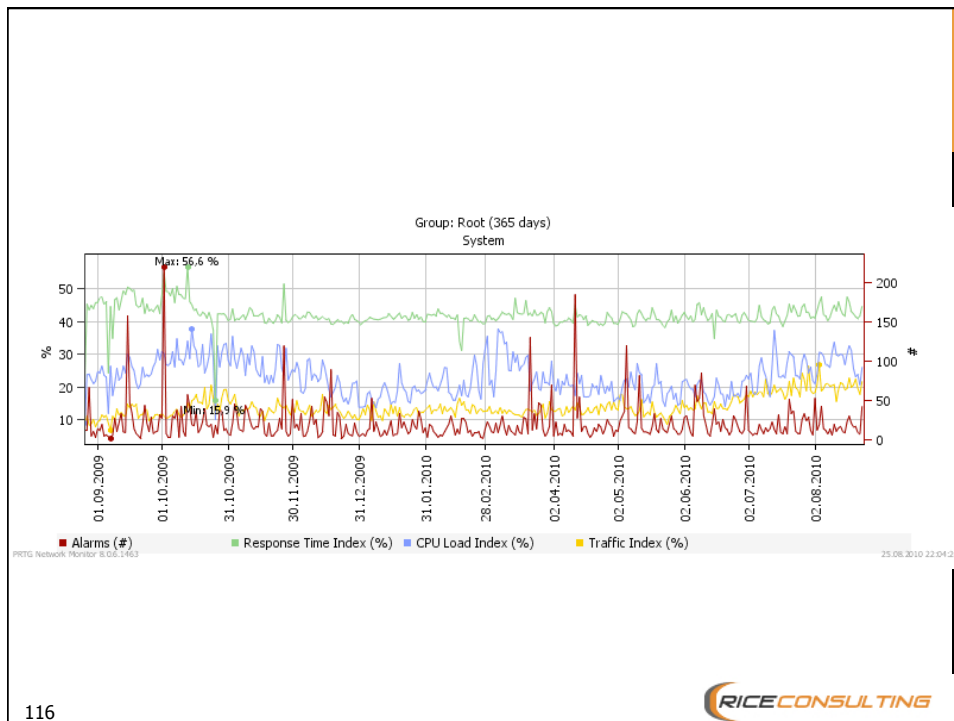


Free and Cheap Test Tools

PAESSLER PRTG NETWORK MONITORING

- **www.paessler.com**
 - Free for up to 10 sensors
 - Up to 100 sensors - \$400
 - Up to 500 sensors - \$1,200

115



116



Free and Cheap Test Tools

Current Alarms and Warnings

Down since	Probe Group	Device	Sensor	Last Value	Status	Message	Priority	Graph
	Probe 1 (POP via F...)	ESD Backoffice Sy...	W Disk Space 8	22 %	Warning	22 % (Free Space C:) is below the warning limit of	★★★★★	Free Space C: 22 %
	Probe 1 (POP via F...)	Firewall 1 (Cisco ASA)	W Free Proc. Memory 1	88.667 kb	Warning	88.667 kb (Free CPU Memory) is above the	★★★★★	Free CPU Memory 88.667 kb
	Probe 1 (POP via F...)	ESD Backoffice Sy...	W Disk Space 5	22 %	Warning	22 % (Free Space C:) is below the warning limit of	★★★★★	Free Space C: 22 %
	Probe 1 (POP via F...)	ESD Backoffice Sy...	W Disk Space 7	23 %	Warning	23 % (Free Space C:) is below the warning limit of	★★★★★	Free Space C: 23 %
12 d 13 h	Probe on NAS2 (1)	Altersprüfung von Backups auf NAS2	!!! \NAS2\virtualServerbackup\waldorf		Down	Cannot access folder: The folder doesn't exist (code:)	★★★★★	Newest File No data
37 m 54 s	Probe 1 (POP via f...)	Local Probe	!!! PRTG Server Process (simulated error)		Down (simulated error)	Simulated error (code: PRTG34)	★★★★★	Working Set No data
	Probe 1 (POP via f...)	PRTG Test Installa...	W URL Overview for 10k Test System	No data	Warning	At least one source channel is paused or has no data.	★★★★★	10tausend senso No data
	Probe 1 (POP via f...)	PRTG Test Installa...	W URL Overview for 20k Test System	No data	Warning	At least one source channel is paused or has no data.	★★★★★	Jens' 20k Sensor No data
	Probe 1 (POP via f...)	Local Probe	W Traffic Comparison	269 kbit/s	Warning	Could not calculate channel 'Netflow 9 from IP Router'	★★★★★	Firewall WAN Ints 269 kbit/s
	Probe 1 (POP via f...)	ESD Backbone Ser...	W Network Bytes Total/sec 1		Warning	Too many 32bit overflows. Try reducing the scanning	★★★★★	Network Bytes Tc No data

Alarms NEXT
This page shows the list of sensors that are in an error or warning state. If all your systems are running fine this page should list no sensors at all!
Need More Help? Go to the Help Center.

119

PRITG Network Monitor 8.0.6.1463 (Beta expires in 35 days) © 2010 Paessler AG Logged in as Dirk Paessler Refresh in 25 sec 25.08.2010 22:08:31

RICECONSULTING

OTHER MONITORING TOOLS

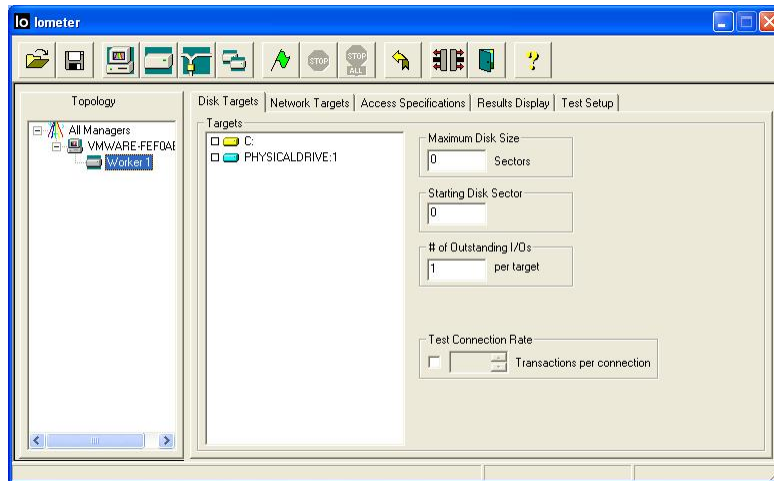
- **PerfMon – Windows**
- **Wireshark**
- **Nagios**
- **Iometer**
 - Iometer is an I/O subsystem measurement and characterization tool for single and clustered systems.
 - It is used as a benchmark and troubleshooting tool and is easily configured to replicate the behavior of many popular applications. One commonly quoted measurement provided by the tool is IOPS.
 - <http://www.iometer.org/>

120

RICECONSULTING

Free and Cheap Test Tools

IOMETER



121



MEMORY TEST TOOLS

- **Memory Validator**
 - The vendor, Software Verification, provides software tools for compiled languages and dynamic languages.
 - The toolset concentrates on the core activities of code coverage, memory leak detection, performance profiling, deadlock detection and flow tracing.
 - Pricing for some products is free, and ranges from \$199 USD to \$695 USD for single-seat suite licensing. (\$4,170 USD for 10 developers)

122



Free and Cheap Test Tools

LOADUI

- **loadUI is a free and open source cross-platform Load Testing solution.**
- **With a visual, drag-and-drop interface, it allows you to create, configure and redistribute your Load Tests interactively and in real-time.**

125



LOADUI

- **loadUI generates scalable, high-volume and real-world load from any number of local and remote computers.**
- **In a single test environment, loadUI provides complete test coverage and supports all the standard protocols and technologies.**
- **www.smartbear.com**

126



Free and Cheap Test Tools

The Project Canvas, loadUI's main working area, showing a simple Load Test scenario. The interface includes a sidebar with categories like TESTCASES, GENERATORS, RUNNERS, ANALYSIS, FLOW, and SCHEDULED. The main area contains several interconnected components: a Scheduler, a Randomizer, a Web Page Runner, and a Distribution component. Each component has a menu and various configuration options. The Web Page Runner is set to 'http://example.com/test.html'.

127

Distribution of two TestCases to the cloud (Amazon EC2) and two remote servers. The screenshot shows the 'System' section with 'Agents' and 'System Log' tabs. Under 'Agents', there are four server instances: GHOST AGENT, AMAZON EC2, WORK SERVER, and EVI-WIN. Each instance has a 'Test case distribution' section with 'Local' and 'Distributed' options. The 'Distributed' section shows two test cases, 'My Distribution' and 'My TestCase', being assigned to the servers. The 'ACT' progress bar for each instance is at 0%.

128

Free and Cheap Test Tools

The screenshot displays a SoapUI test suite configuration. At the top left is the 'Ramp' component, which controls the test execution rate. Below it is the 'SoapUI Runner' component, which manages the execution of test cases. To the right of the runner is the 'SoapUI MockService' component, which provides a mock environment for the test. On the far right, there are two monitoring components: 'TPS' (Transactions Per Second) and 'Avg Response', both showing real-time performance graphs. The 'SoapUI Runner' window shows a 'Web Test' case running against a 'MockService'.

soapUI Integration - A soapUI TestCase running against a soapUI MockService.

129

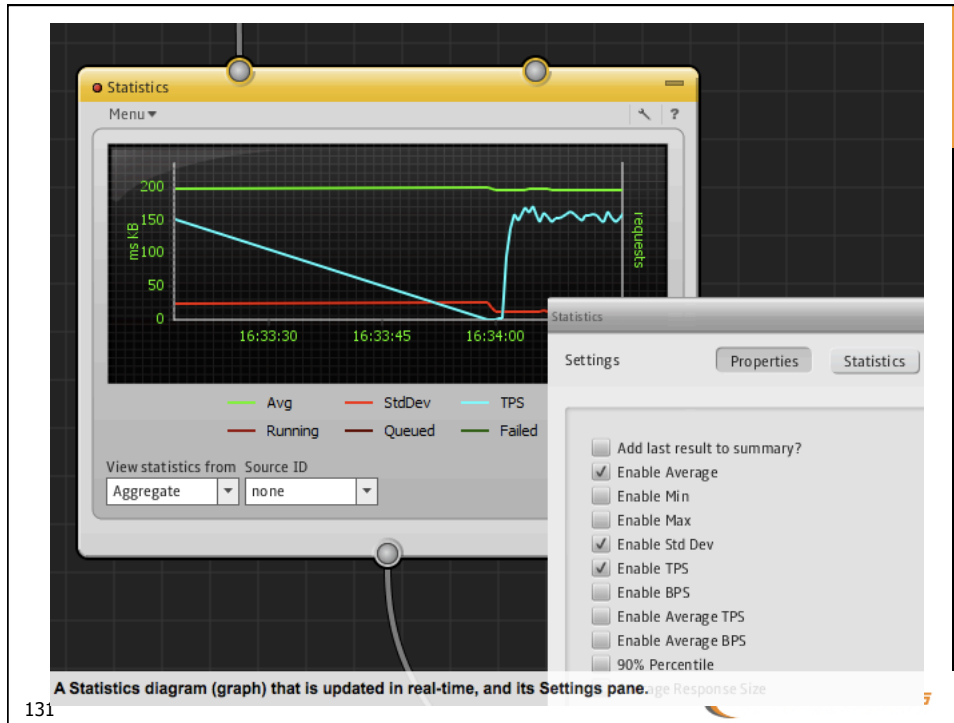
The screenshot shows two SoapUI components. The top component is an 'Assertion' window, which is used to verify test results. It has a 'Value' dropdown set to 'TimeTaken', 'Min' and 'Max' buttons, and a table showing the current state of the assertion. The bottom component is a 'Table Log' window, which displays a table of test results, including the output of the assertion component.

Logging of Assertion Failures by connecting the output of an Assertion component to a TableLog.

Period	Value	Tolerance	Max	Assert	Min	Timestamp
0	3387.0	1	1000	TimeTaken	9	1291994848...
0	3405.0	1	1000	TimeTaken	9	1291994849...
0	3405.0	1	1000	TimeTaken	9	1291994849...
0	3405.0	1	1000	TimeTaken	9	1291994849...
0	3405.0	1	1000	TimeTaken	9	1291994849...
0	3485.0	1	1000	TimeTaken	9	1291994849...
0	3395.0	1	1000	TimeTaken	9	1291994849...
0	3395.0	1	1000	TimeTaken	9	1291994849...

130

Free and Cheap Test Tools



131



132

Free and Cheap Test Tools

Testing of five Web pages by running them both in parallel and sequence.

135

SOASTA CLOUDTEST LITE

- **CloudTest® Lite, SOASTA's free downloadable edition, delivers rapid test creation and real-time analytics for functional testing and frequent, lower-scale performance testing throughout the application development life cycle.**
- **Free for 100 virtual users or less**

Free and Cheap Test Tools

SOASTA CLOUDTEST LITE (2)

- **Build, compose, run and analyze functional and performance tests of any complexity**
- **Validate Web and mobile applications up to 100 simultaneous users**
- **Run tests as often as needed in every phase of development and delivery**
- **Test modern web technologies like HTML5, Flash/Flex and Silverlight as well as SOAP and REST web services**

135



SOASTA CLOUDTEST LITE (2)

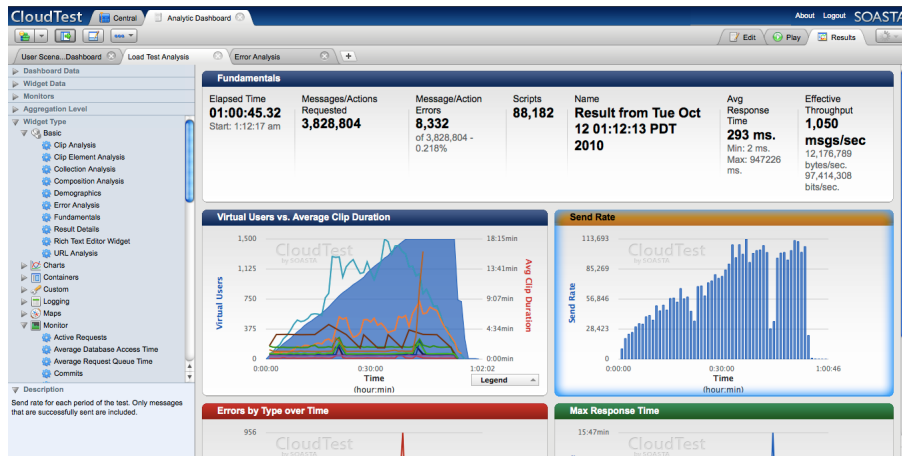
- **Analyze end-to-end performance with real-time, in-memory analytics during test execution**
- **Build tests that can be run at large scale with CloudTest On-Demand or other Editions**
- **Evaluate CloudTest for larger scale and broader deployment for your team**
- **<http://www.soasta.com/cloudtest/lite/>**

136



Free and Cheap Test Tools

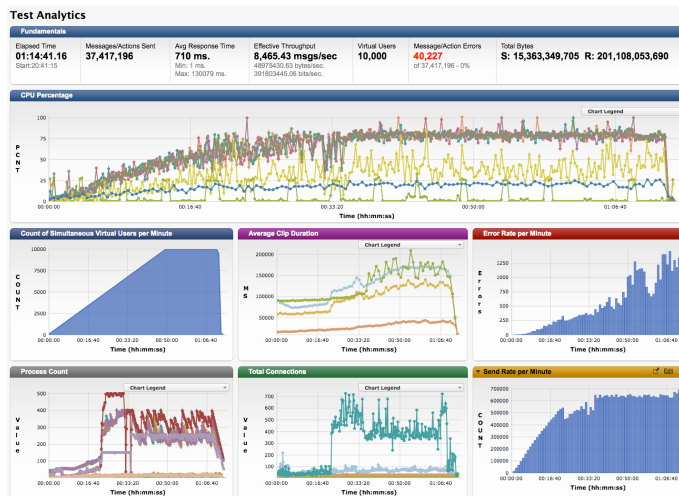
SOASTA CLOUDTEST LITE (3)



137



SOASTA CLOUDTEST LITE (4)

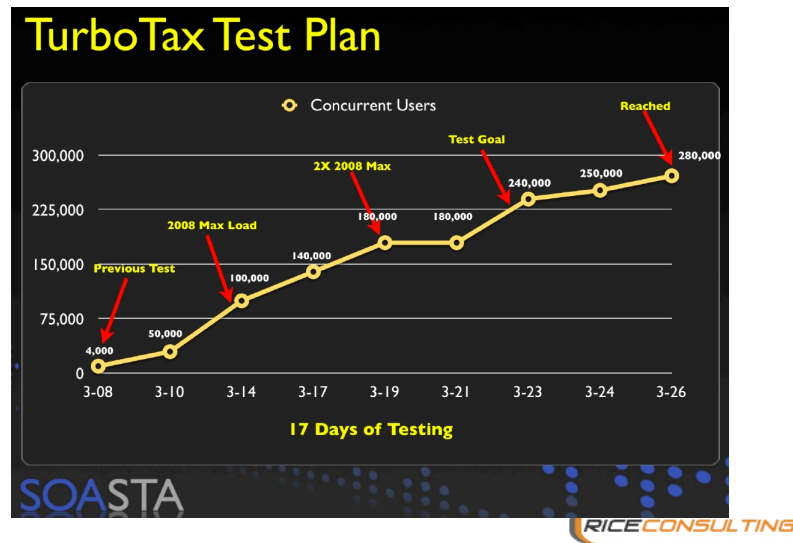


138



Free and Cheap Test Tools

SOASTA CLOUDTEST LITE (5)



139

BROWSER MOB

- **Cloud-based performance testing and monitoring.**
- **Some free plans and open source products**
 - Free – 100 Virtual Users
- **Other plans start at \$49/mo for monitoring and \$499 for performance testing.**
- **<https://browsermob.com/performance-testing>**

140

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Free and Cheap Test Tools

OTHER NOTABLE FREE LOAD TEST TOOLS

- **Apache Jmeter** - <http://jakarta.apache.org/jmeter/>
- **fwptt** - <http://fwptt.sourceforge.net/>
 - For web applications
- **The Grinder** - <http://grinder.sourceforge.net/>
 - For Java applications
- **OpenSTA** - <http://www.opensta.org/>

141



OTHERS?

- _____
- _____
- _____
- _____
- _____
- _____

142



Free and Cheap Test Tools

TEST MANAGEMENT

- **Testopia**
 - Testopia is a test case management extension for Bugzilla.
 - It is designed to be a generic tool for tracking test cases, allowing for testing organizations to integrate bug reporting with their test case run results.
 - Though it is designed with software testing in mind, it can be used to track testing on virtually anything in the engineering process.
 - <http://sourceforge.net/projects/testopia>

143



Test Run 1: Run 1

Overview

Plan	Plan Test Version	Start Date
Test Plan	1	2006-03-22 00:00:00 MDT
Product	Product Version	Stop Date
Test/Product		
Manager	Status	Default Tester
Org: <ghendricks@novell.com>	RUNNING	Org: <ghendricks@novell.com>

[Create regression test cases](#) [Delete test run](#) [Clone Test Run](#) [Add Test Cases](#) [View Run History](#)

Tags

CC List	Case Run Status	Tags
a@b.c <input type="button" value="Add"/>	'Today': Show 'today' test case logs	Scott <input type="button" value="Add"/>
ghendricks@novell.com	Passed: Show passed test case logs	www [X]
a@b.c	Failed: Show failed test case logs	eee [X]
<input type="button" value="Remove"/>	Total: Show all test case logs	www [X]
	% Completed: <input type="text" value="0"/>	

Test Case Run Logs

Case ID	Build	Assigned	Tested by	Close date	Status	Category	Bugs
1	55a	a@b.c	ghendricks@novell.com	2006-04-04 23:06:56	✓	My Cat	0

Summary: FIVE

Action: Effect:

Notes:

Running by me, started at

Bugs detected: [-] a@b.c

[Classic interface...](#)

Reports

[Test log](#) | [Test incident](#) | [Bugs detected in this test run](#) | [Bugs severity status](#) | [Test burnout chart](#)

144



Free and Cheap Test Tools

QAMANAGER

- **Web-based application used for keeping track of engineering and customer releases of Software Projects, Resource allocations and related information.**
- **It helps QA Managers to keep track of releases effectively. Powered by OpenXava and Java.**
- **<http://sourceforge.net/projects/qamanager>**

145



QAMANAGER (2)

QAProjectManager - Test Cycles

Detail - List

<input type="checkbox"/>	Project Name	Release Tag	Status	Scheduled Engineering Release	Actual
<input type="checkbox"/>	starts	starts	starts	=	=
<input type="checkbox"/>	IPG	v1-0-b1	Test Completed	6/8/07	7/8/07
<input type="checkbox"/>	Reporting	v2-0-b9	Test in Progress		
<input type="checkbox"/>	Customer Care	v1-0-b23	Test Completed	1/8/08	
<input type="checkbox"/>	Data warehouse	v1-0-b1	Testing is Blocked		
<input type="checkbox"/>	CDR phase 1	v1-0-b16	Test Completed		
<input type="checkbox"/>	CDR phase 1	v1-0-b14	Test Completed		4/5/08
<input type="checkbox"/>	CDR phase 1	v1-0-b15	Test Completed		4/5/08
<input type="checkbox"/>	Customer Care	v1-0-b21	Test Completed	1/6/09	1/6/09
<input type="checkbox"/>	CDR phase 2	v1-0-b4	Test in Progress		7/7/08
<input type="checkbox"/>	Bank Topup	v1-0-b16	Test Completed		4/5/07

1 2 ▶

Delete selected

There are 12 objets in list ([Hide them](#))

146



Free and Cheap Test Tools

TESTMASTER

- A test case logging, reporting and test automation tool, much like the commercial product Test Director.
- <http://testmaster.sourceforge.net/>

147

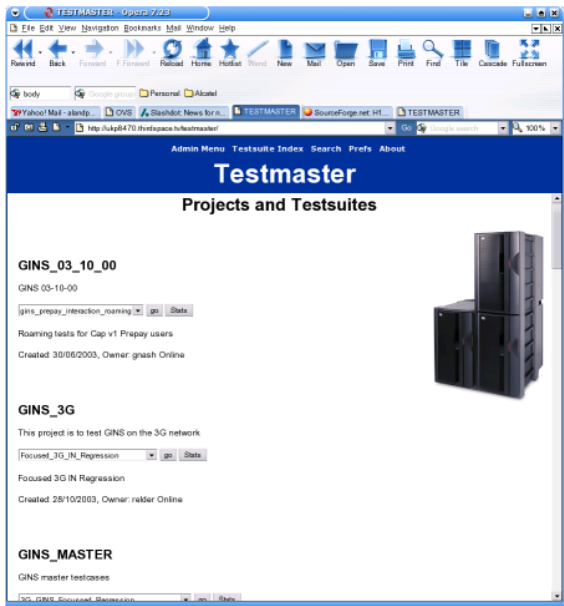


Test Case ID	Description	Status	Tester	Date	Passes
AcctPartN-002.01	Verify that the IN Prepay application on the SCP specifies the following pre-defined set of account partitions at the Service Provider and Product levels: Family & Friends, Best Friends, and General Mixuses. Confirm that each of these pre-defined account partitions are defined for Voice Tariffs. Further confirm that the pre-defined account partitions have separate balances for Off-Peak and Peak calls.	Hold	testmaster	22/04/2004	0
AcctPartN-002.02	Verify that the P-SMS specifies the following pre-defined set of account partitions at the Service Provider and Product levels: Family & Friends, Best Friends, and General Mixuses. Confirm that each of these pre-defined account partitions are defined for Voice Tariffs. Further confirm that the pre-defined account partitions have separate balances for Off-Peak and Peak calls.	Pass	apearson	15/01/2003	0
AcctPartN-003.01	Verify that up to 15 user-definable account partitions can be defined for a given ServiceProvider.	Pass	apearson	15/01/2003	0
AcctPartN-003.02	Verify that when a Product is created, there are no user-definable account partitions defined for that Product.	Pass	apearson	15/01/2003	0
AcctPartN-003.03	Verify that a Maximum Balance for Peak and Off-Peak periods can be specified for each user-definable account partition.	Fail	testmaster	22/04/2004	1
AcctPartN-003.04	Verify that a user-definable account partition can be associated with the "Voice" Tariff Type.	Pass	apearson	15/01/2003	0
AcctPartN-003.05	Verify that a user-definable account partition can be associated with the "Data" Tariff Type.	In Progress	testmaster	22/04/2004	0
AcctPartN-003.06	Verify that a user-definable account partition can be associated with the "SMS" Tariff Type.	Pass	apearson	15/01/2003	0
AcctPartN-003.07	Verify that a user-definable account partition can be associated with the "Application Event" Tariff Type.	Pending	testmaster	22/04/2004	0
AcctPartN-003.08	Verify that a user-definable account partition must be associated with a Tariff Type.	Pass	apearson	15/01/2003	0

148



Free and Cheap Test Tools

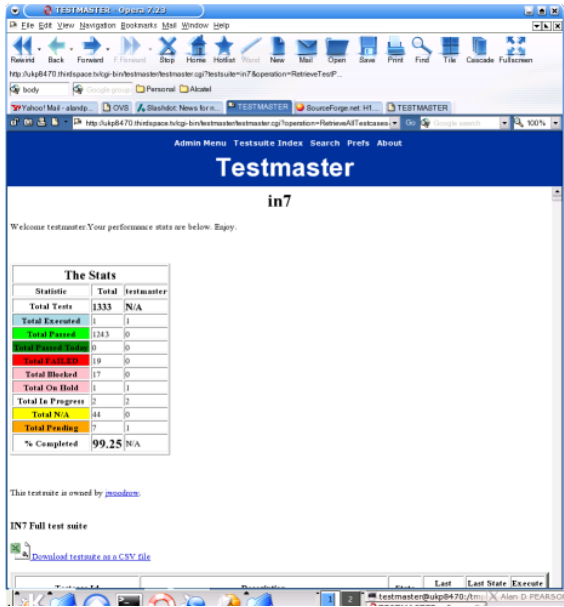


The screenshot shows the Testmaster web interface in a browser window. The page title is "Testmaster" and the subtitle is "Projects and Testsuites". There are three project entries listed:

- GINS_03_10_00**: GINS 03-10-00. Description: Roaming tests for Cap v1 Prepay users. Created: 30/06/2003, Owner: grassh Online.
- GINS_3G**: This project is to test GINS on the 3G network. Description: Focused 3G IN Regression. Created: 28/10/2003, Owner: raldar Online.
- GINS_MASTER**: GINS master testcases.

The Rice Consulting logo is visible in the bottom right corner of the slide.

149



The screenshot shows the Testmaster web interface displaying performance statistics for the "in7" test suite. The page title is "Testmaster" and the subtitle is "in7". A welcome message reads: "Welcome testmaster! Your performance stats are below. Enjoy."

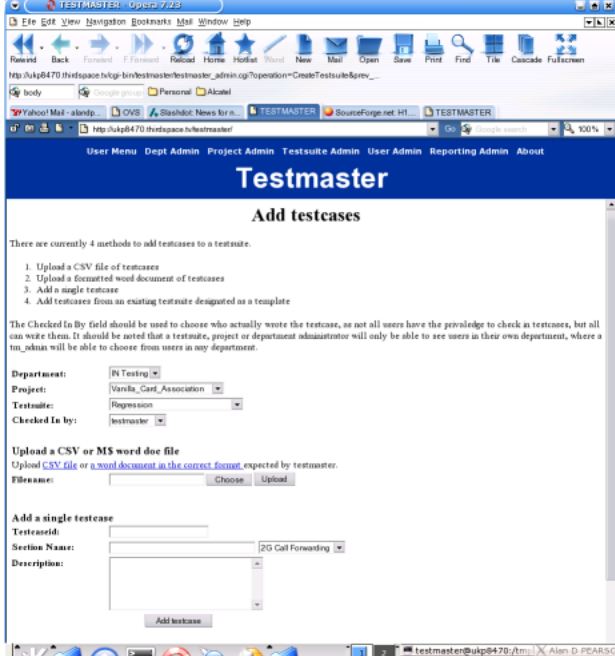
The Stats

Statistic	Total	Testmaster
Total Tests	1333	N/A
Total Executed	1	1
Total Passed	1343	0
Total Skipped Tests	0	0
Total Failed Tests	19	0
Total Blocked	17	0
Total On Hold	1	1
Total In Progress	0	0
Total N/A	144	0
Total Pending	7	1
% Completed	99.25	N/A

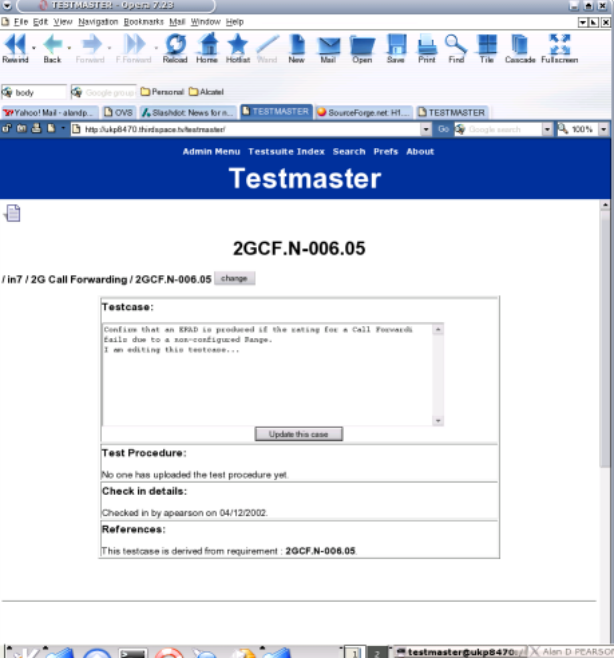

The test suite is owned by [produser](#). Below the stats, it says "IN7 Full test suite" and provides a link to "Download test suite as a CSV file". The Rice Consulting logo is visible in the bottom right corner of the slide.

150


Free and Cheap Test Tools



151



152

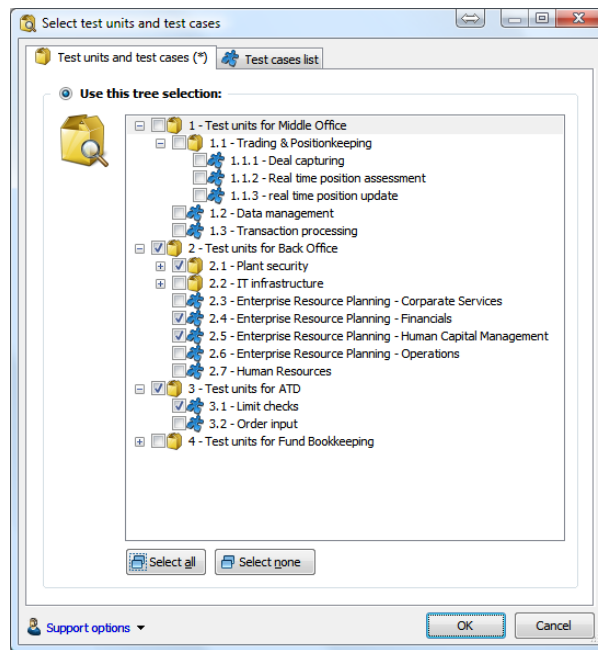


Free and Cheap Test Tools

ZETA TEST

- **Zeta Test is an integrated test management environment that enables you to perform black-box tests, white-box tests, regression tests or change management tests of software applications.**
- **Zeta Test helps you to plan, perform, log, monitor and document the tests, and then to evaluate the test results.**
- **Cost – Free**
- **www.zeta-test.com**

153



154

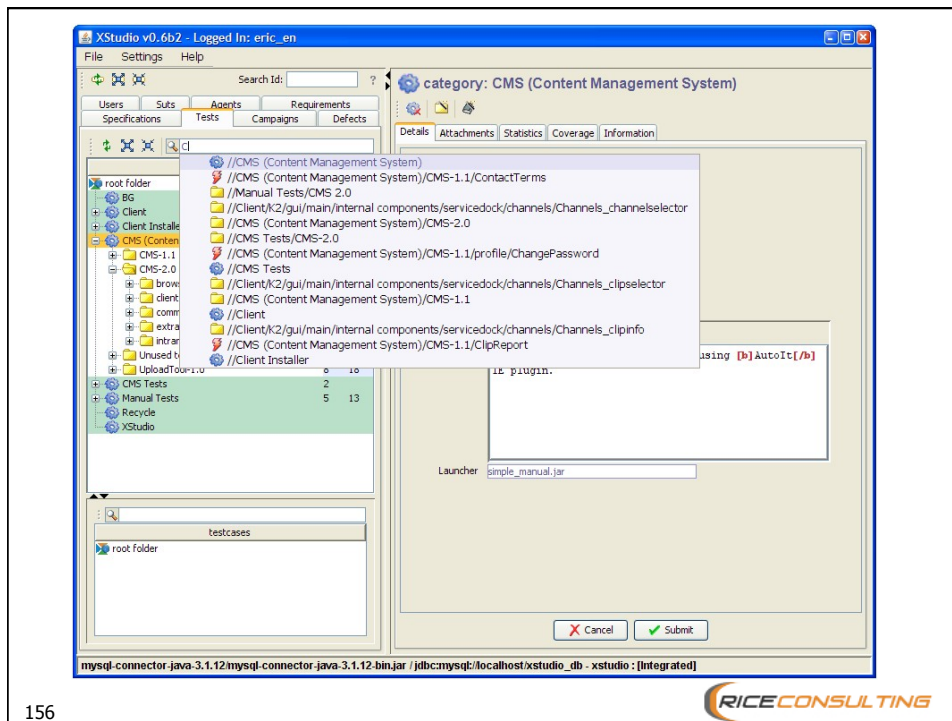


Free and Cheap Test Tools

XQUAL

- Free at <http://www.xqual.com>
- XStudio is a fully-graphical application developed in Java (so theoretically deployable on any OS).
- All of the data are organized within trees for more flexibility.
- Integrated management - All entities involved in the QA/testing projects are managed by XStudio.
 - This makes lots of metrics/statistics/status generation much more easier.

155



156



Free and Cheap Test Tools

QA BOOK

- **Windows-based**
- **Allows you to create, edit and manage requirements, test cases, defects, environments, project success criteria, reporting, automated testing and more.**
- <http://www.freetestmanagementtool.com/Free>

157



The screenshot displays the QA BOOK software interface. The main window is titled "Test Cases" and shows a test case for "LOG001". The test case details include a reference, title, and description. The "Test Case Steps" section shows a single step with a URL, action, expected result, and actual result. The "Select Requirement(s) to associate" section shows a tree view of requirements. The "Associated Requirements" section shows a list of requirements associated with the test case.

Reference	Title	Type
7.3.5	Design and Development - Verification	Business
7.3.6	Design and Development - Validation	Business
7.3.7	Design and Development - Control of Changes	Business
7.5.1	Product Realization - Production of Service Provision - Co...	Business
7.4.1	Product Realization - Purchasing - Process	Business
7.4.2	Product Realization - Purchasing - Purchasing Information	Business
7.5.2	Product Realization - Production of Service Provision - Vall...	Business
7.5.3	Product Realization - Production of Service Provision - Ide...	Business
7.5.4	Product Realization - Production of Service Provision - Cu...	Business
7.5.5	Product Realization - Production of Service Provision - Pre...	Business
7.6	Product Realization - Control of Monitoring and Measuring...	Business
8.1	Measurement, Analysis and Improvement - General	Business
8.2.1	Measurement, Analysis and Improvement - Monitoring an...	Business
8.2.2	Measurement, Analysis and Improvement - Monitoring an...	Business
8.2.3	Measurement, Analysis and Improvement - Monitoring an...	Business
8.2.4	Measurement, Analysis and Improvement - Monitoring an...	Business
8.3	Measurement, Analysis and Improvement - Control of No...	Business

158



Free and Cheap Test Tools

159

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160

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Free and Cheap Test Tools

The screenshot shows the Vienna v2.1 - [Defects] application. The main window displays a table of defects with columns for Reference, Title, Description, Priority, Severity, Status, and Created On. Below the table, a detailed view of a defect is shown.

Reference	Title	Description	Priority	Severity	Status	Created On
0004	Login - Delete the ID and continue browsing... error	Deleted the user and continued browsing. Was expecting an error message to ap...	High	Minor	Open	Tue 20/04/2010 15:20
0006	Login - Change the ID into an ID of another account	Changed the user ID in the URL to that of another user. Hit enter and was pres...	Urgent	Minor	Open	Tue 20/04/2010 15:21
0011	Login - Correct login, logout and go back with the bro...	If you log out and then press the browsers back button you can get back into the ...	High	Minor	Open	Tue 20/04/2010 15:25
0013	Login - Go directly to a 'logged in' page without having...	Copy the logged in URL, log out of the website and then paste in the copied URL. ...	Medium	Minor	Closed	Tue 19/06/2010 14:43
0014	Login - Check the sustainability of the session...error	Left a session running and was logged out after only 3 minutes	Special At...	Minor	Closed	Tue 15/06/2010 14:43
0005	Login - Check the messaging and information in the error...	Entered an incorrect username and password and was presented with the error ...	Low	Minor	Closed	Tue 20/04/2010 15:20
0009	Login - Multiple times incorrect password ...error	Was expecting my account to be locked out after 3 incorrect attempts but I was al...	Medium	Minor	Closed	Tue 20/04/2010 15:23
0010	Login - Incorrect combination of username and passwo...	Correct username with incorrect password and the error message displayed was...	Medium	Minor	Closed	Tue 20/04/2010 15:24
0012	Login - Entering special characters in username field	Created a user with special characters in the user name and when I went to login	Medium	Major	Closed	Tue 20/04/2010 16:18

Defect Details:
Title: Login - Change the ID into an ID of another account ...error
Description: Changed the user ID in the URL to that of another user. Hit enter and was presented with that users UID on the top right
Created On: Tue 20/04/2010 15:21
Modified On: Tue 20/04/2010 16:26
Priority: Urgent
Severity: Minor
Status: Open
Raised By: Shareen Patel
Assigned To: Nathaniel McCoy
Environment: IBMQA 'Sample' Test
Associated Test Case: Login - Change the ID into an ID of another account
Test Run: Website Login Scripts
Defect was detected in the following Operating Systems:
 • Windows Vista
Defect was detected in the following Web Browsers:
 • Internet Explorer 8

161



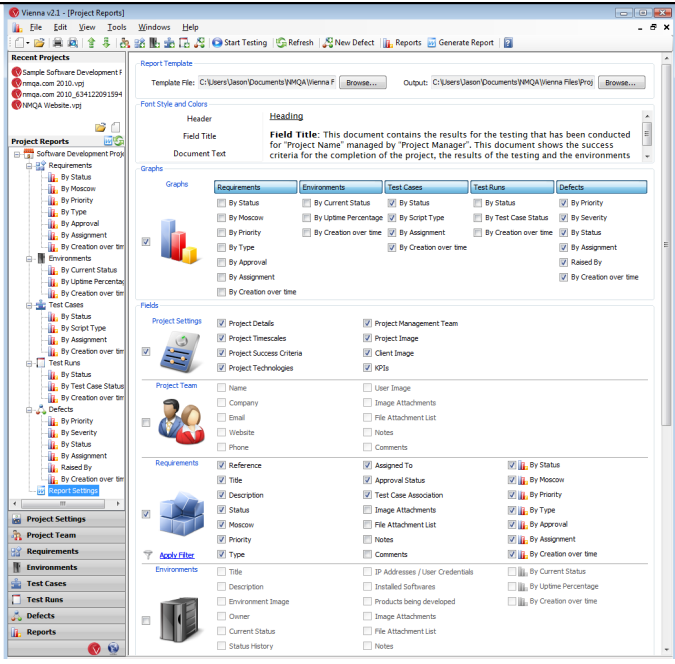
The screenshot shows the Vienna v2.1 - [Project Reports] application. The main window displays a bar chart titled "Defects by Priority". The Y-axis represents the "Number of Defects" (0 to 5). The X-axis represents the "Priority" categories: Special Attention, Urgent, High, Medium, and Low.

Priority	Number of Defects
Special Attention	1
Urgent	1
High	2
Medium	4
Low	1

162



Free and Cheap Test Tools



The screenshot displays the Vienna v2.1 software interface. The main window is titled "Vienna v2.1 - [Project Reports]". The interface includes a menu bar (File, Edit, View, Tools, Windows, Help), a toolbar with icons for Start Testing, Refresh, New Defect, Reports, and Generate Report, and a "Report Template" section. The "Report Template" section shows the template file path and output path. Below this, there are sections for "Font Style and Colors", "Header", "Field Title", and "Document Text". The "Field Title" field contains the text: "Field Title: This document contains the results for the testing that has been conducted for 'Project Name' managed by 'Project Manager'. This document shows the success criteria for the completion of the project, the results of the testing and the environments".

The interface also features a "Graphs" section with five tabs: Requirements, Environments, Test Cases, Test Runs, and Defects. Each tab has a set of checkboxes for various filtering options. For example, under "Requirements", there are checkboxes for "By Status", "By Moscow", "By Priority", "By Type", "By Approval", "By Assignment", "By Creation over time", "By Current Status", "By Uptime Percentage", "By Script Type", "By Test Case Status", "By Severity", "By Status", "By Assignment", and "By Creation over time".

Below the "Graphs" section is a "Fields" section with several sub-sections: "Project Settings", "Project Team", "Requirements", "Apply Filter", and "Environments". Each sub-section contains a list of checkboxes for various fields and options. For example, under "Project Settings", there are checkboxes for "Project Details", "Project Timescale", "Project Success Criteria", "Project Technologies", "Project Management Team", "Project Image", "Client Image", and "APIs".

The interface also includes a "Recent Projects" list on the left side, showing projects like "Sample Software Development F", "mqa.com 2010.10", "mqa.com 2010.10.12.209.1994", and "MQA Website.vsp".

The number "163" is visible in the bottom left corner of the screenshot area. The "RICECONSULTING" logo is visible in the bottom right corner.

BROMINE

- **Part of the Selenium suite of tools**
- **Web-based QA tool for Selenium, that enables you to easily run Selenium-RC tests and view the results.**
- **It scales from the single tester that just wants to run some tests without all the hassle to the corporate solution with multiple user-groups and hundreds of test cases.**
- **<http://bromine.seleniumhq.org/>**

164



Free and Cheap Test Tools

TESTLODGE

- **Online test case management tool, allowing you to manage test plans, test cases and test runs.**
- **4 plans from \$12 to \$99 / month**
- **www.testlodge.com**

165



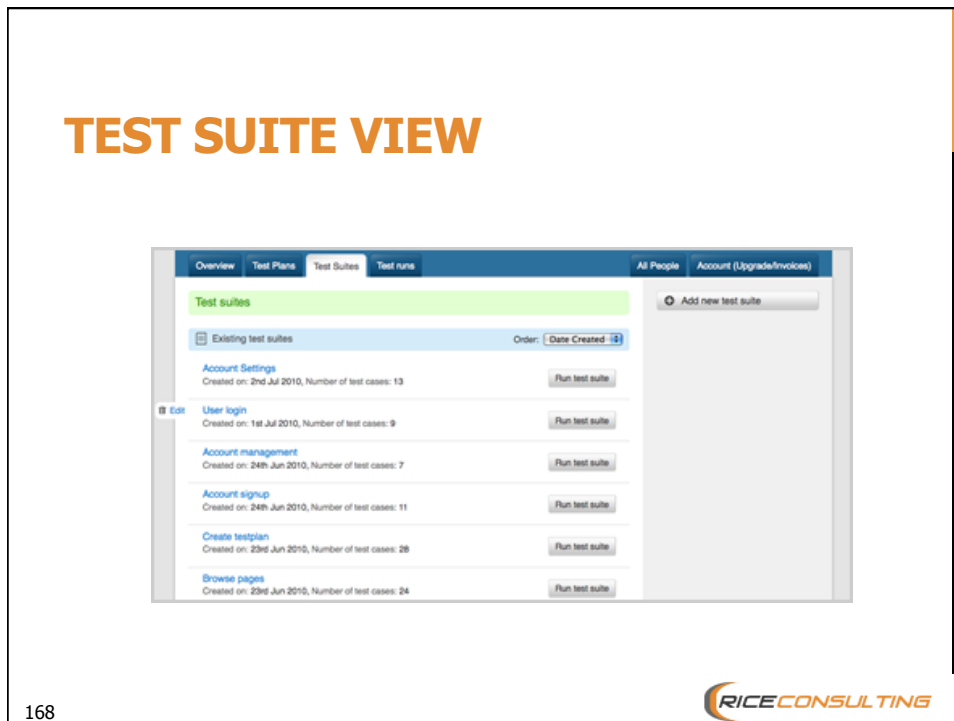
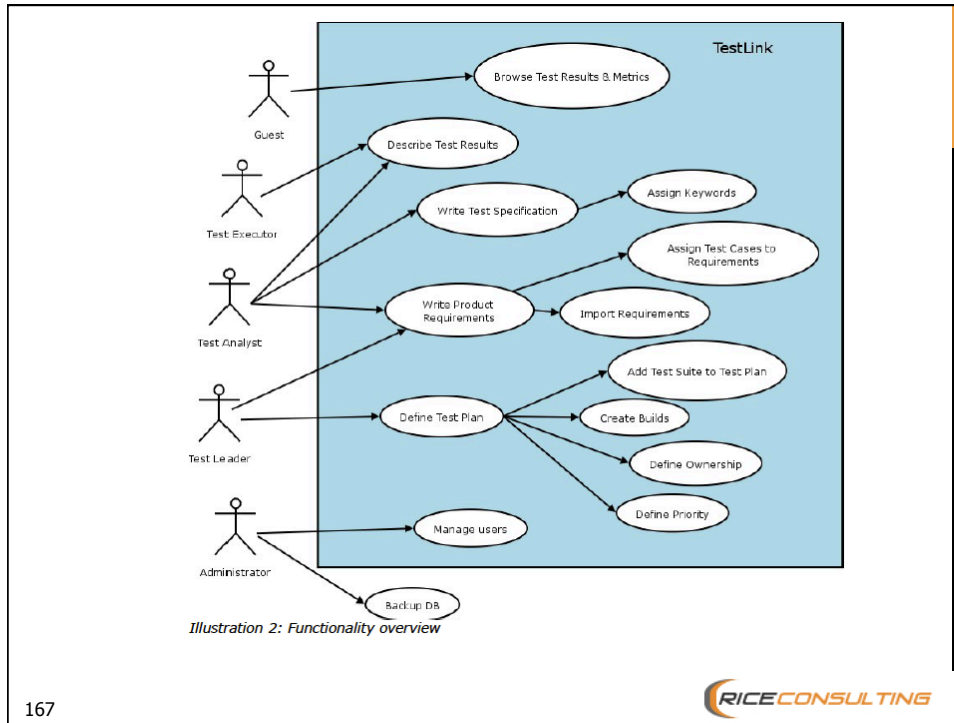
TESTLINK

- **TestLink is web based Test Management system.**
- **The latest documentation is available on www.teamst.org or testlink.sourceforge.net.**
- **<http://www.teamst.org>**

166

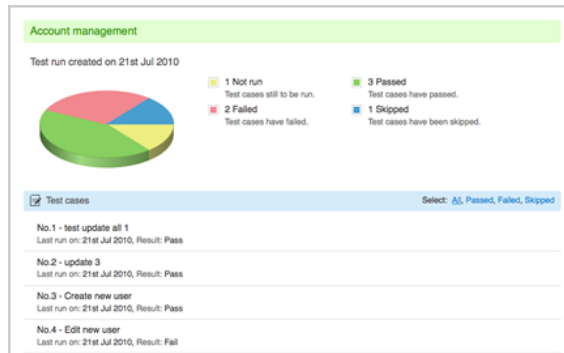


Free and Cheap Test Tools



Free and Cheap Test Tools

TEST RUN VIEW



169



TESTRAIL

- **Web-based, hosted on your own server**
- **Track and follow the status of individual tests, milestones and projects with dashboards and activity reports.**
- **One-time licensing**
 - Ranges from \$239 (1 user) to \$7,000 (50 users)
- **<http://www.gurock.com/testrail/>**

170



Free and Cheap Test Tools

Return to Dashboard & Projects (Admin) Janna Garza | Feedback | My Settings | Help | Logout

Spreadsheet

Overview | Todo | Milestones | Test Runs & Results | Test Suites & Cases | Administration

Printing & Export ID: S3 [Run a Test] [Edit]

Dashboard > Spreadsheet > Test Suites & Cases > Printing & Export

Contains 5 sections with a total of 51 test cases.

Prerequisites

- C83 Verify title, sub title and heading styles
- C84 Test add-in installation and verify menu appearance
- C85 Add footnotes to document and verify footnote numbering
- C86 Add and verify Tables of Contents with multi-page document
- C87 Change page color and verify print output
- C88 Export enclosed test document to PDF and verify rendering
- C89 Change document margins and test interoperability with PDF export
- C90 Change text alignment in an inline table
- C91 Verify line spacing on multi-page document
- C92 Test conditional formatting with basic value range
- C93 Format table with built-in style

Documentation & Help

- C94 Apply sort routine to complex table with different currencies
- C95 Verify formula rendering with built-in print preview driver
- C96 Verify CSV import with enclosed test data files
- C97 Change document attributes (author, title, organization)
- C98 Print document history and attributes
- C99 Add new review data point (including note)
- C100 Add document footer with page numbers and author
- C101 Add document header with document title
- C102 Change document orientation from portrait to landscape mode

Sections & Cases

Test Runs

Sections in this test suite:

- Prerequisite
- Documentation & Help
- Licensing & Terms
- Customization
- Automation

171

RICECONSULTING

Return to Dashboard & Projects (Admin) Janna Garza | Feedback | My Settings | Help | Logout

Presenter

Overview | Todo | Milestones | Test Runs & Results | Test Suites & Cases | Administration

Project Overview [Edit]

Dashboard > Presenter

In the past 14 days:

- 642 Passed (87% were successful)
- 177 Retest (18% marked a retest)
- 126 Failed (13% were unsuccessful)

Upcoming Milestones

- Release 2.7 Due on 2/13/2010
- Release 2.8 Due on 3/7/2010
- Release 3.0 Due on 3/27/2010

Latest Test Runs

- File Formats By Nero Hanson on 1/21/2010
- Release Protocol By Nero Hanson on 1/21/2010
- Tools Integration By Keiko Montoya on 1/21/2010

Activity History | Test Changes

Thursday, January 21, 2010

- Passed Export enclosed test document to PDF and verify rendering Tested by Alexis Gonzalez
- Passed Print document history and attributes Tested by Janna Garza
- Passed Change text alignment in an inline table (completed) Tested by Nero Hanson
- Retest Verify formula rendering with built-in print preview driver (completed) Marked by Alexis Gonzalez
- Passed Verify line spacing on multi-page document Tested by Leches Hamphrey
- Failed Add and verify Tables of Contents with multi-page document Tested by Alexis Gonzalez

Actions

Create a new milestone, test suite or test run.

- Milestones Add | View All
- Test Runs Add | View All
- Test Suites Add | View All

Todos

Test runs with open tests assigned to you. See all todos

- Release Protocol (2)
- File Formats (2)
- Tools Integration (1)

172

RICECONSULTING

Free and Cheap Test Tools

TEST RUN

- <http://www.runtestrun.com/>
- **Web-based, hosted**
- **Pricing from \$10/mo (single user) to \$50/mo. (unlimited users)**

173



The screenshot shows the Test Run web application interface. At the top, there is a navigation bar with the 'Test Run' logo and several menu items: 'Test Cases', 'Test Plans', 'Reports', 'Account', 'Welcome Byrne', 'Log out', and 'Help'. Below the navigation bar, there are three buttons: 'Create Test Case', 'Import/Export', and 'Edit Options'. To the right, there is a 'Filter by Tag:' input field and a 'Go' button. Below these elements, there is a link that says 'Showing all test cases'. The main content area contains a table with the following columns: 'ID', 'Priority', and 'Summary'. Each row in the table has a checkbox on the left, followed by the ID, Priority, and Summary text. To the right of each summary text, there are three links: 'copy', 'edit', and a trash icon.

ID	Priority	Summary	copy	edit	trash	
<input type="checkbox"/>	103	P1	Verify a failed login	copy	edit	
<input type="checkbox"/>	104	P1	Verify password recovery	copy	edit	
<input type="checkbox"/>	105	P1	Do tutorials appear?	copy	edit	
<input type="checkbox"/>	106	P2	Import test cases into Test Run	copy	edit	
<input type="checkbox"/>	110	P1	Login to Test Run	copy	edit	
<input type="checkbox"/>	111	P1	Verify a failed login	copy	edit	
<input type="checkbox"/>	112	P1	Verify password recovery	copy	edit	
<input type="checkbox"/>	113	P1	Do tutorials appear?	copy	edit	
<input type="checkbox"/>	114	P2	Import test cases into Test Run	copy	edit	
<input type="checkbox"/>	118	P1	Login to Test Run	copy	edit	
<input type="checkbox"/>	119	P1	Verify a failed login	copy	edit	
<input type="checkbox"/>	120	P1	Verify password recovery	copy	edit	
<input type="checkbox"/>	121	P1	Do tutorials appear?	copy	edit	

174



Free and Cheap Test Tools

The screenshot shows the 'Create Test Plan' interface in the Test Run application. The header includes the 'Test Run' logo and navigation links for 'Test Cases', 'Test Plans', 'Reports', and 'Account'. A user is logged in as 'Byrne'. The main content area is titled 'Create Test Plan' and contains a 'Details' section with input fields for 'Name', 'Description', and 'Due Date'. A 'Create Test Plan' button is located below these fields. To the right, there is a 'Selected Tags' section with a 'Tags' input field and a list of 'Available tags' including 'bar', 'baz', 'excel', 'foo', 'FP1.0', 'FP1.1', 'functional', 'getting', 'import', 'login', 'new', 'password', 'REQ:123', 'smoke', 'started', 'system', 'test', 'testrun', and 'user'. At the bottom, there are links for 'Company Home', 'Terms of Service', and 'Privacy Policy', along with a copyright notice for 2005-2006, Test Run, LLC.

175

RICECONSULTING

The screenshot displays the overview for a test plan titled 'Verify administrative interactions'. The header shows the 'Test Run' logo and navigation links. A summary bar indicates the test plan is 'DUE 122 DAYS AGO' and shows a status breakdown: 6 passed, 6 not run, 21 blocked, and 32 failed. A 'New Case' button and a pagination indicator '17 of 175' are also present. Below the summary, a list of test cases is shown with checkboxes, titles, tags, and status indicators (passed, failed, blocked). The test cases listed are: 'Test if you can add testcases via importing more' (passed), 'This is a test that has underscores_foo.! more' (failed), 'Add tags to case during creation. more' (blocked), 'Test multiple delete on testcases. more' (failed), and 'Verify that one can assign default assignee. more' (passed). An 'Add Test Cases' button is located at the top right of the list.

176

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Free and Cheap Test Tools

The screenshot displays the Test Run dashboard with the following data:

Test Plan	not run	blocked	failed
Beta Preview of Test Run Version 1.0 (11 cases assigned)	29	6	3
Test Run 1.0 Launch (7 cases assigned)	8	1	0
Lorem ipsum dolor sit amet (1 case assigned)	4	2	2
Release 1.0: testing testplans (3 cases assigned, Due Oct 26, 2006)	4	1	0

Additional features visible include a 'Did You Know?' tip about markdown, a 'News & Updates' section with links like 'Brief Service Outage' and 'Test Run Beta Update', and a footer with 'RICE CONSULTING' logo and copyright information.

177

RTH - REQUIREMENTS AND TESTING HUB

- **An open source tool for managing requirements and test cases.**
- **Available for download, but seems to be inactive in terms of maintenance.**
- <http://sourceforge.net/projects/rth/>

178



Free and Cheap Test Tools

DEMO - REPORTING

logged in as admin 2008-01-31 10:08:50 (CET) Switch Project DEMO

[Home](#) | [Requirements](#) | [Test Library](#) | [Release](#) | [Test Results](#) | [Defects](#) | [Reporting](#) | [Manage](#) | [User](#) | [Help](#) | [Logout](#)

Report Name	Description
Custom Reporting	Create your own customize reports
Test Area	View the number of tests executed by Test Area for a selected Release > Build > TestSet.
Build Status	View the status of all tests for a selected Release > Build.
Failed Verifications	View detailed information on all failed verifications for a selected Release > Build > TestSet.
Requirements Coverage	View the requirements coverage for a selected Release > Build > TestSet
Test Group	Information on tests in a selected Release > Build > TestSet. Useful for deciding to signoff on testing.

ETH - Quality Centre
Version 1.6.3
Copyright 2005 - MMV
Please contact the system administrator with any problems [ETH_Admin](#)
Time: 0.109461 seconds.

179

DEMO - REQUIREMENTS

logged in as admin 2008-01-31 10:08:02 (CET) Switch Project DEMO

[Home](#) | [Requirements](#) | [Test Library](#) | [Release](#) | [Test Results](#) | [Defects](#) | [Reporting](#) | [Manage](#) | [User](#) | [Help](#) | [Logout](#)

[Requirements](#) | [Folder View](#) | [Add Requirement - Record](#) | [Add Requirement - File](#) | [Notifications](#)

Showing 1 - 3 of 3 [First Previous 1 Next Last]

ReqID	Version	Requirement Name	Requirement Detail	Doc Type	Status	Area Covered	Functionality	Locked By	Locked Date
<input type="checkbox"/>	00001	Requirement_Record1	System Shall not tip over and die when logging in...	Tech Spec	New	Tests	Permissions;		
<input type="checkbox"/>	00002	Sub-Req1	Creating a sub-requirement	Tech Spec		Tests	Run Level;		
<input type="checkbox"/>	00003	Sub-Req2	A second sub-requirement	Tech Spec		Tests	Permissions;		

Select All

ETH - Quality Centre
Version 1.6.3
Copyright 2005 - MMV
Please contact the system administrator with any problems [ETH_Admin](#)
Time: 0.121701 seconds.

180

Free and Cheap Test Tools

DEMO - TESTS

logged in as admin 2008-01-31 10:09:04 (CET) Switch Project: DEMO

Home | Requirements | Test Library | Release | Test Results | Defects | Reporting | Manage | User | Help | Logout

Test Library | Add Test | Test Workflow

Man/Auto: BA Owner: QA Owner: Tester: Show: 25 Filter:
 Test Type: Test Area: Test Status: Priority: Search:

Showing 1 - 2 of 2 [Export to Excel] [First Previous 1 Next Last]

	Test ID	Man/Auto	File Type	Auto Pass	Test Name	BA Owner	QA Owner	Tester	Test Type	Test Area	Test Status	Priority
<input type="checkbox"/>	00001	M		No	Demo_Test		admin	qa_user	Regression	Bugs	New	High
<input type="checkbox"/>	00002	M		No	Demo_Test2	ba_user		qa_user	Regression	Bugs	New	Medium

Select All | Man/Auto | Update

RTH - Quality Centre
Version 1.6.3
Copyright 2005 - MHV
Please contact the system administrator with any problems [RTH_Admin](#)
Time: 0.109713 seconds.

181

DEMO - HOME

logged in as admin 2008-01-31 10:08:33 (CET) Switch Project: DEMO

Home | Requirements | Test Library | Release | Test Results | Defects | Reporting | Manage | User | Help | Logout

News

Welcome to RTH

This tool has been designed to do the following:

- Store requirements under version control
- Allow attributes to be assigned to every requirement (e.g. priority, risk, estimates, release)
- All requirements to be baselined
- Allow users to relate requirements to other requirements
- Link Tests and Requirements
- Store Test artifacts under version control
- Capture both Manual and Automated Test Results
- Easily link to any web-based Change Control or Bug Tracking system
- Provide reporting on Requirements, Tests, and Test Results

Test Sets - Last Five

TestSetID	Test Set Name	Build Name	Release Name	Tests	Passed	Failed	WIP	Finished : Awaiting Review	Incomplete	Date Received
00001	Regression	Build 1.0	Release 1.0	2	0	1	0	0	0	2005-11-23 23:23:53

Tests - Last Five Modified

Test ID	Test Name	Last Updated By	Last Updated
00002	Demo_Test2	admin	2005-11-23 22:53:50
00001	Demo_Test	admin	2005-11-23 22:37:05

Requirements - Last Five Modified

ReqID	Version	Requirement Name	Last Updated By	Last Updated
00003	0	Sub-Req2	admin	2005-11-23 23:14:24
00002	0	Sub-Req1	admin	2005-11-23 23:08:35
00001	0	Requirement_Record1	admin	2005-11-23 22:06:24

RTH - Quality Centre
Version 1.6.3
Copyright 2005 - MHV
Please contact the system administrator with any problems [RTH_Admin](#)
Time: 0.121789 seconds.

182

Free and Cheap Test Tools

AXIOM

- **Free**
- **Build and manage requirements and use cases in an agile environment.**
- **Features such as tracing, reporting and history making it effortless to increase software quality and reduce complexity.**
- **www.iconcur-software.com**

183



ICE SCRUM

- **Open source**
- **Agile scrum management**
- **Helps in implementing the key agile practices: vision, features, user stories, effort estimation with Planning Poker, task board, etc.**
- **Tracks stories, defects and more.**
- **<http://www.icescrum.org/en/>**

184



Free and Cheap Test Tools

ICE SCRUM (2)

The screenshot displays the 'Main Dashboard' for the 'iceScrum' project. The interface includes a navigation menu at the top with options like 'Dashboard', 'Sandbox', 'Product Backlog', 'Timeline', 'Members', and 'Sprint plan'. The main content area features a 'Project Indicator' section with a 'Project burndown chart (in points)'. The chart shows 'Points' on the y-axis (0 to 53) and 'Sprints' on the x-axis (R151 to R159). Two lines represent 'All' (yellow) and 'Done' (green) work. The 'All' line starts at 0 and reaches 48 by the end of sprint R159. The 'Done' line starts at 0 and reaches 27 by the end of sprint R159. Below the chart is a 'Project description' section with the text: 'Le suivi du développement d'iceScrum avec iceScrum... Following iceScrum development with iceScrum'. There are also sections for 'Release vision' (No vision currently defined) and 'Current definition of done' (No definition currently defined). On the right side, there is an 'Activites' section with a list of recent events, such as 'Vincent Barrier has created Story Probleme avec la selection multiple ?' and 'Claude Aubry has created Story Release planning cumbersome'.

Main Dashboard

RICECONSULTING

185

ICE SCRUM (3)

The screenshot displays the 'Cumulative flow chart' for the 'iceScrum' project. The chart shows the number of stories ('Nb stories') on the y-axis (0 to 83) and 'Sprints' on the x-axis (R151 to R159). The chart is a stacked area chart with five categories: 'Suggested' (yellow), 'Accepted' (blue), 'Estimated' (light blue), 'Planned' (red), and 'In progress' (orange). The total number of stories increases over time, reaching 83 by the end of sprint R159. The 'In progress' category is the largest, followed by 'Suggested' and 'Accepted'. The 'Planned' and 'Estimated' categories are smaller. A legend at the bottom right identifies the categories: Suggested (yellow), Accepted (blue), Estimated (light blue), Planned (red), In progress (orange), and Done (green). The 'Done' category is not visible in the chart, suggesting it is zero or very low.

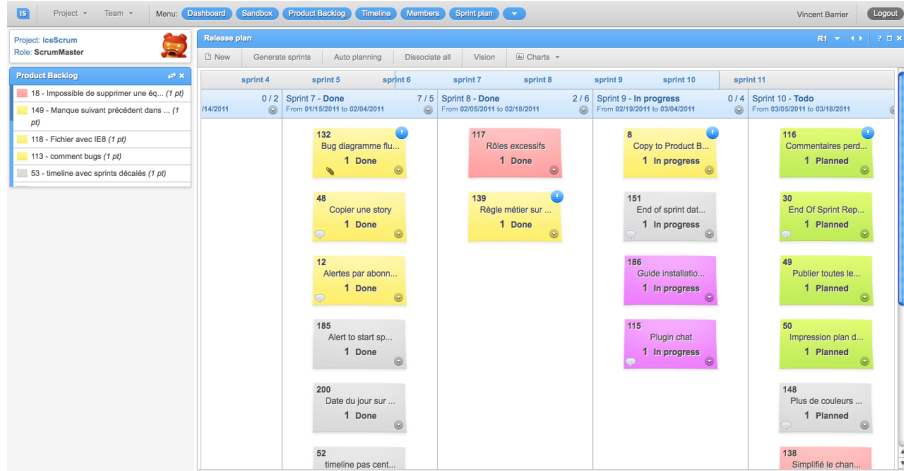
Cumulative Stories

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186

Free and Cheap Test Tools

ICE SCRUM (4)



Tasks by Sprint

187



OTHERS?

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188



Free and Cheap Test Tools

TEST DATA GENERATION

- **Generatedata.com**
 - www.generatedata.com
 - Creates test data in a variety of forms:
 - Text, cvs, XML, Excel, SQL
 - Free and Cheap Subscriptions Available
- **DBFeeder - Free**
 - Automatically generate test data for Oracle Databases which fits primary and foreign keys of tables.
 - <http://dbfeeder.sourceforge.net/index.html>

189



The screenshot shows the GENERATEDATA.COM website interface. At the top, there is a navigation menu with links for About, Generator, Download, Donate, Log In, and Forums. Below the menu, the 'Generator' tab is active. The interface includes several configuration options: 'Result type' with radio buttons for HTML (selected), Excel, XML, CSV, and SQL; 'Country-specific data' with checkboxes for Canada (checked), Netherlands, UK, and US; and 'Number of results' set to 100. A table with 5 columns (Order, Column Title, Data Type, Examples, Options) and 5 rows is displayed. The first row is for 'Name' (Data Type: Name, Example: John (Male Name), Option: MaleName). The second row is for 'Phone' (Data Type: Phone/Fax, Example: Canada (1), Option: 1-XXX-XXX-XXXX). The third row is for 'Country' (Data Type: Country, Example: No examples available, Option: No options available). The fourth row is for 'Date' (Data Type: Date, Example: Jan 1, 2006, Option: From: 06/05/2007 To: 06/05/2009 Format code: M j, Y). The fifth row is for 'Please Select'. Below the table, there is an 'Add 1 Row(s)' button and a green 'Generate' button. An 'Empty Form' button is also present.

Order	Column Title	Data Type	Examples	Options	Help
1	Name	Name	John (Male Name)	MaleName	
2	Phone	Phone/Fax	Canada (1)	1-XXX-XXX-XXXX	
3	Country	Country	No examples available.	No options available.	
4	Date	Date	Jan 1, 2006	From: 06/05/2007 To: 06/05/2009 Format code: M j, Y	
5		Please Select			

190



Free and Cheap Test Tools

Name	Phone	Country	Date
Fitzgerald	1-696-847-9724	Uzbekistan	Mar 22, 2009
Harrison	1-616-877-0863	Nigeria	Nov 12, 2007
Tiger	1-832-613-9835	Nepal	Aug 30, 2007
Raja	1-465-605-0566	Iran, Islamic Republic of	Dec 10, 2008
Gavin	1-442-189-9731	Estonia	Aug 5, 2008
Ivan	1-523-879-6151	Romania	Mar 9, 2009
Jonah	1-771-445-7800	Sweden	May 26, 2008
Sawyer	1-975-399-7400	Ecuador	Nov 14, 2008
Raymond	1-189-506-0741	Brunei Darussalam	Sep 26, 2008
Tate	1-797-795-5931	Estonia	Jan 19, 2008
Denton	1-907-919-7187	Poland	Jul 3, 2008
Steven	1-476-897-6663	Iran, Islamic Republic of	Oct 24, 2008
Lucian	1-906-318-5093	Belize	Sep 30, 2007
Bradley	1-382-169-9975	Saudi Arabia	Jul 12, 2007
Oren	1-444-188-6882	Brunei Darussalam	Aug 17, 2008
Yoshio	1-270-201-2305	Indonesia	Mar 21, 2009
Marvin	1-536-394-0384	Guadeloupe	Oct 6, 2008
Paul	1-305-227-1442	Moldova	Sep 27, 2007
Hu	1-487-531-1857	Christmas Island	Jan 16, 2009
Keegan	1-229-172-8024	Cayman Islands	Sep 9, 2008
Kareem	1-230-655-0948	Heard Island and Mcdonald Islands	Feb 21, 2008
Palmer	1-156-628-1401	Moldova	Mar 21, 2009
Perry	1-447-689-2022	Nepal	Dec 21, 2008
Preston	1-866-250-9555	Colombia	Mar 27, 2008
Tate	1-433-559-2830	Malawi	Jan 13, 2009
Cyrus	1-972-298-9756	Vanuatu	Mar 8, 2008
Benjamin	1-796-458-2926	Iceland	Jan 8, 2008
Phelan	1-666-961-2594	Singapore	Mar 3, 2008

191



OTHERS?

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192



Free and Cheap Test Tools

TEST EVALUATION

- **Beyond Compare**
 - www.scootersoftware.com
 - \$30/single user, volume discounts
- **Exam Diff and DiffNow (online)**
 - www.prestosoft.com
 - Free and Pro versions
 - \$35/single user, volume discounts
- **UltraCompare**
 - <http://www.ultraedit.com>
 - Lite and Pro Versions
 - Pro - \$49.95
 - Windows, Mac, Linux

193



TEST EVALUATION (2)

- **WinMerge**
 - <http://winmerge.org>
 - Open Source differencing and merging tool for Windows.
 - Compares both folders and files, presenting differences in a visual text format that is easy to understand and handle.
 - Very useful for determining what has changed between project versions, and then merging changes between versions.
 - Can be used as an external differencing/merging tool or as a standalone application.
- **WinDiff**
 - <http://www.grigsoft.com/download-windiff.htm>
 - Free, Windows only

194

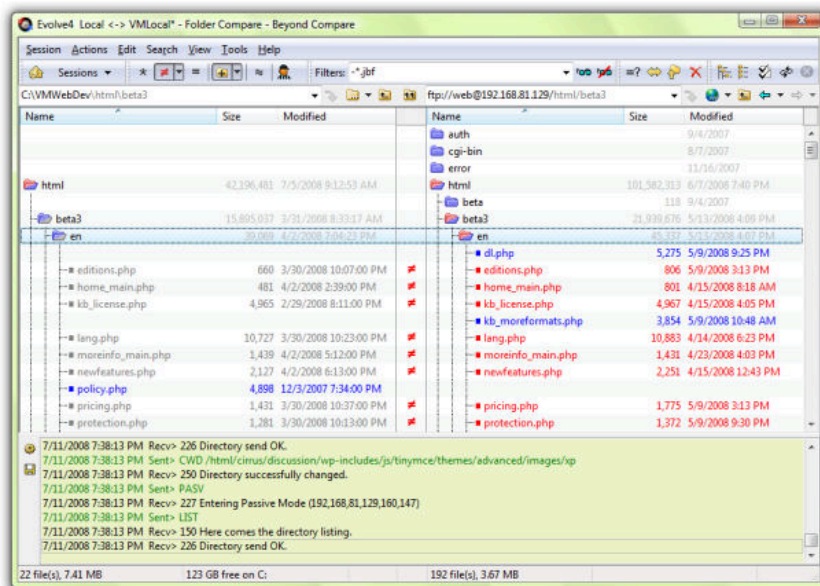


Free and Cheap Test Tools

TEST EVALUATION (3)

- **KDiff3**
 - <http://kdiff3.sourceforge.net/>
 - MS-Windows. Apple Mac OSX binary available
 - Free

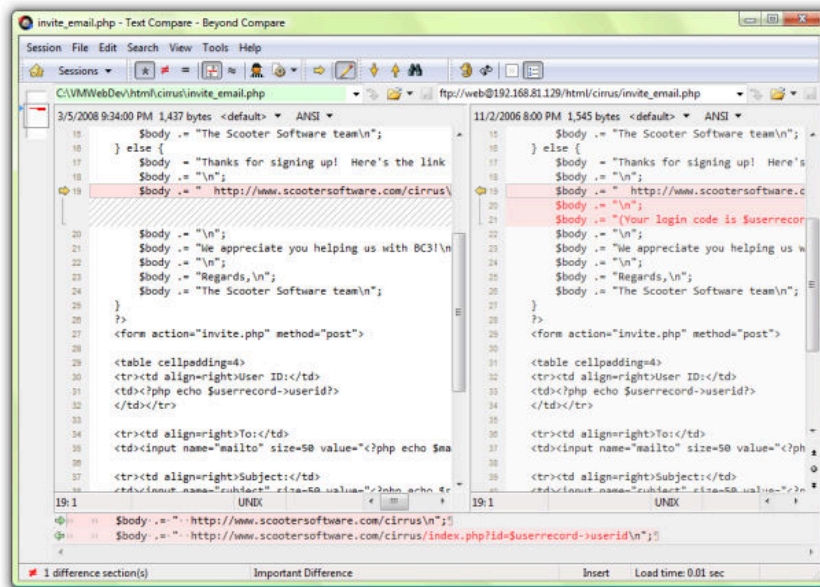
195



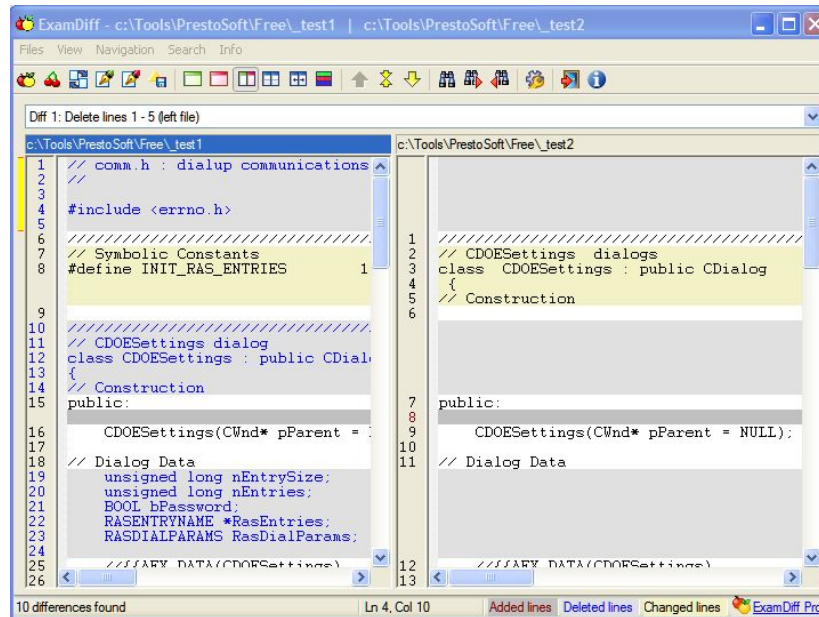
196



Free and Cheap Test Tools



197



198



Free and Cheap Test Tools

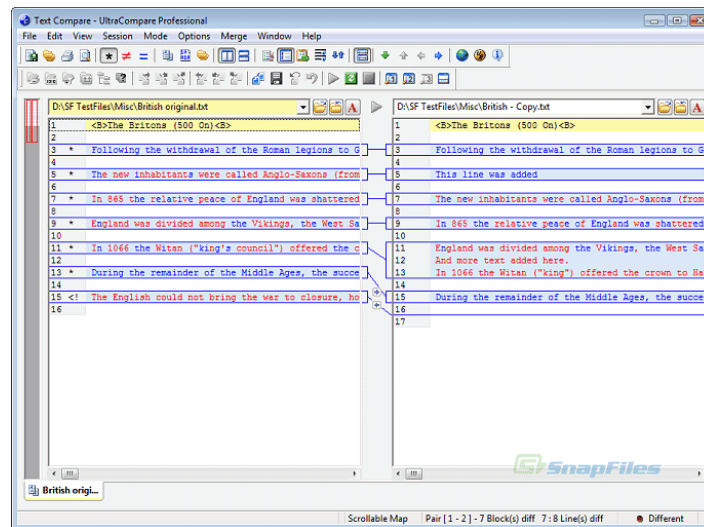
ULTRACOMPARE

- UltraCompare tracks changes and differences between files, directories, Word docs, zip archives;
- Supports both text compare and binary file compare of two or three files/folders at a time.
- Merge differences, find duplicates, edit files, and more.
- Integrates with UltraEdit or UESudio!

199



ULTRACOMPARE

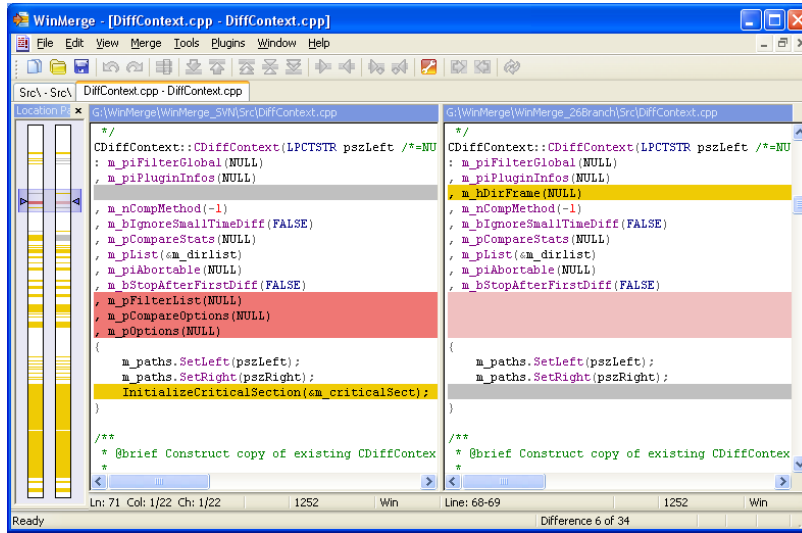


200



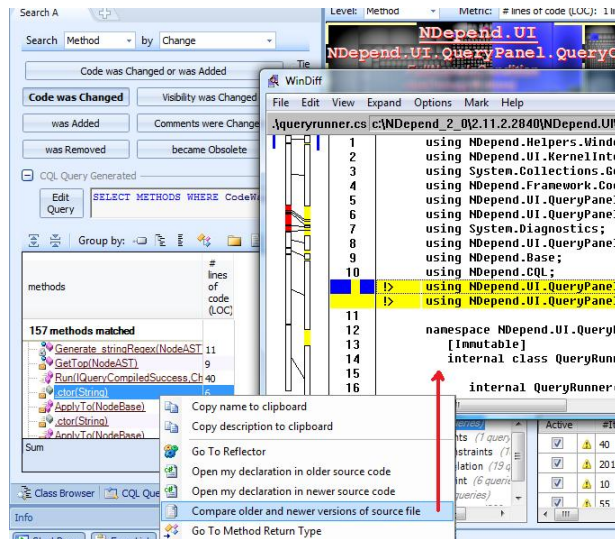
Free and Cheap Test Tools

WINMERGE



201

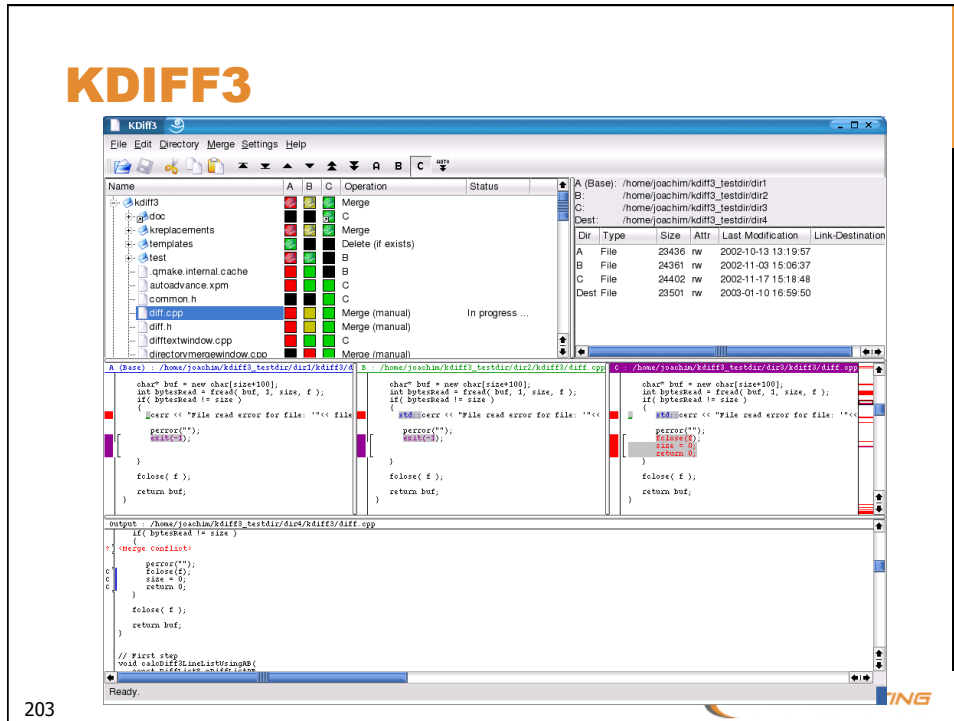
WINDIFF



202

Free and Cheap Test Tools

KDIFF3



TEST EVALUATION (4)

- **Windows Media Encoder**
 - Free at www.microsoft.com
 - Captures screen video in wmv format
- **Hypercam**
 - \$30/single user at www.hyperionics.com
 - Captures screen video in avi format
 - Volume discounts
- **Jing**
 - Free
 - www.techsmith.com
- **Skitch (Mac, Free)**
- **Screenr** - <http://www.screenr.com/>
- **Clarify** - <http://www.clarify-it.com/>

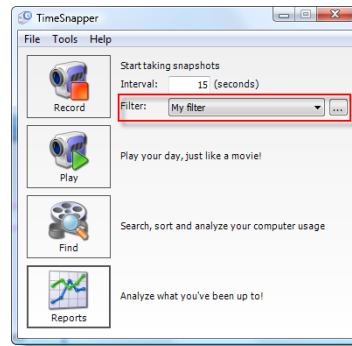
204



Free and Cheap Test Tools

TIMESNAPPER

- **Runs in the background of your computer, taking screenshots of your desktop every few seconds all week long.**



205



OTHERS?

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206



Free and Cheap Test Tools

DEFECT TRACKING

- **Bugzilla – free at www.bugzilla.org**
- **FlySpray – Free at www.flyspray.org**
- **Many more at:**
 - <http://www.software-pointers.com/en-defecttracking-opensource-tools.html>

207



Bug 3 - New Bugzilla permissions rules not followed - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://bugzilla.ravenbrook.com/show_bug.cgi?id=3

This is Bugzilla

Bugzilla Version 2.18

Bugzilla Bug 3 New Bugzilla permissions rules not followed Last modified: 2004-07-06 15:14

[Search page](#) [Enter new bug](#)

Bug#: 3 Hardware: All Reporter: Gareth Rees
Product: p4dti OS: FreeBSD Add CC: <g@ravenbrook.com>
Component: replicator Version: 2.1.2 CC:
Status: RESOLVED Priority: P2
Resolution: FIXED Severity: major

Assigned To: Nick Barnes
<nb@ravenbrook.com>

URL:

Summary: New Bugzilla permissions rules not followed

4. In 2.16.5, the status can be set to anything by anybody if the 'everconfirmed' flag is set. In 2.17.7, this routine does not pay any attention to the 'everconfirmed' flag.

Perforce replication:

Job: bug3 Server: perforce0.Perforce server on localhost.16666 Replicator ID: replicator0

Change	Effect	Date	User	Description
104593	closed	2004-07-06 15:33:53	(unknown)	Rewrite can_change_field in dt_bugzilla.py to match CheckCanChangeField in Bugzilla 2.17.7. Conditionalize this code on the Bugzilla version discovered by the bugzilla interface module.

[Search page](#) [Enter new bug](#)

Actions: [New](#) | [Search](#) | [Find](#) | bug # | [Reports](#) | [Requests](#) | [New Account](#) | [Log In](#)

208



Free and Cheap Test Tools

Summary: contains all of the words/strings Search

Classification: Product: Component: Version: Target:

Unclassified	addons.mozilla.org	*.mozilla.org	0.1	---
Client Software	AUS	API	0.2	0.007
Components	Bugzilla	Accessibility	0.3	0.008
Server Software	Calendar	Account Manager	0.4	0.009
Client Support	Camino	Add-ons	0.5	0.010

A Comment: contains the string

The URL: contains all of the words/strings

Whiteboard: contains all of the words/strings

Keywords: contains all of the keywords

Status: Resolution: Severity: Priority: Hardware: OS:

UNCONFIRMED	FIXED	blocker	--	All	All
NEW	INVALID	critical	P1	DEC	Windows 95
ASSIGNED	WONTFIX	major	P2	HP	Windows 98
REOPENED	DUPLICATE	normal	P3	Macintosh	Windows ME
RESOLVED	WORKSFORME	minor	P4	PC	Windows NT
VERIFIED	INCOMPLETE	trivial	P5	PocketPC	Windows 2000
CLOSED	EXPIRED	enhancement		Sun	Windows XP
	MOVED			Other	Windows Server 2003
					Windows Vista

Email Addresses, Bug Numbers, and Votes

Any one of:

- the bug assignee
- the reporter
- the QA contact
- a CC list member
- a commenter

Any one of:

- the bug assignee
- the reporter
- the QA contact
- a CC list member
- a commenter

is

is

Bug Changes

Only bugs changed between: and Now
(YYYY-MM-DD or relative dates)

where one or more of the following changed:

- [Bug creation]
- Alias
- Assignee
- CC list accessible?

MANTIS

- **MantisBT is a free popular web-based bugtracking system.**
- **It is written in the PHP scripting language and works with MySQL, MS SQL, and PostgreSQL databases and a webserver.**
- **<http://www.mantisbt.org/>**

Free and Cheap Test Tools

MANTIS (2)

- **MantisBT has been installed on Windows, Linux, Mac OS, OS/2, and others.**
- **Almost any web browser should be able to function as a client. It is released under the terms of the GNU General Public License (GPL).**

211



Mantis

Logged in as: *prescience* 02-04-01 07:08 PST mantis Switch

[Main](#) | [View Bugs](#) | [Report Bug](#) | [Summary](#) | [Account](#) | [Manage](#) | [Edit News](#) | [Docs](#) | [Logout](#)

[All Bugs] [[Reported Bugs](#)] [[Assigned Bugs](#)]

any any any Show: 50 Changed(hrs): 6 Hide Resolved:

Viewing Bugs

ID	#	Category	Severity	Status	Updated	Summary
0000132		security	tweak	new	02-03	Something that lets you do something you're not suppose to do.
0000130		bugtracker	block	new	02-02	Coucou
0000133	1	bugtracker	major	new	02-03	testing
0000129	2	test	major	feedback	02-02	Catalyst crash Switch 1
0000131		bugtracker	crash	acknowledged	02-03	testing summary
0000064	3	bugtracker	feature	assigned	01-02	user defined fields / projects
0000066	3	bugtracker	feature	assigned	12-27	change to filter select lists on viewview bug pages
0000081	2	bugtracker	feature	assigned	01-22	Remember Previous Entry

212

Free and Cheap Test Tools

The screenshot shows a web browser displaying a dashboard for issue tracking. The browser address bar shows 'http://192.168.1.139/'. The dashboard includes several summary tables:

- Summary**
 - By Status:**

	Open	Resolved	Closed	Total
new	1	-	-	1
 - By Severity:**

	Open	Resolved	Closed	Total
feature	1	0	0	1
 - By Category:**

	Open	Resolved	Closed	Total
 - Time Stats For Resolved Issues (days):**

Longest open issue	
Longest open	0.00
Average time	0.00
Total time	0.00
 - Developer Stats:**

	Open	Resolved	Closed	Total
 - By Date (days):**

1	1
2	1
3	1
7	1
30	1
60	1
90	1
180	1
365	1
 - By Resolution:**

	Open	Resolved	Closed	Total
open	1	0	0	1
 - By Priority:**

	Open	Resolved	Closed	Total
immediate	1	0	0	1
 - Reporter Stats:**

	Open	Resolved	Closed	Total
admin	1	0	0	1
 - Reporter Effectiveness:**

	Severity	False	Total
admin	1	0	1

213



MANTIS MOBILE

The screenshots show the Mantis Mobile application interface:

- Left Screenshot:** Login screen with fields for User name (vboctor), Password, and Mantis URL (http://www.mantisbt.org/bugs). Includes 'Login' and 'Send Feedback' buttons.
- Middle Screenshot:** Dashboard view for 'vboctor' with a search bar for 'Issue Number...', a dropdown for 'Select Default Project' (mantisbt), and buttons for 'Report Issue', 'View Issues', 'Filters', 'Logout', and 'Send Feedback'.
- Right Screenshot:** List of issues including 'upgrade failure', 'new HTMLMail plugin v0.1', 'bug 0013253, APPLICATION ERROR #...', 'changing to the next custom status d...', 'Files served by plugins do not have a ...', 'mc_user_get() to get user data', 'Add tags support to soap api', and 'Wrong Content-type for various MSOf...'.

214



Free and Cheap Test Tools

OTHERS

- Redmine - <http://www.redmine.org/>

215



OTHERS?

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216

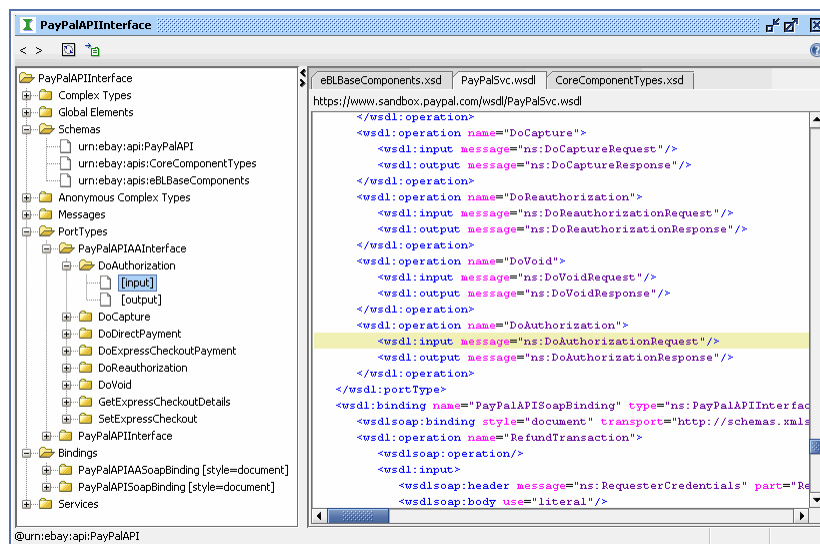


Free and Cheap Test Tools

SOA

- **SoapUI**
 - <http://www.soapui.org/>
 - Free and Pro versions
- **PushToTest**

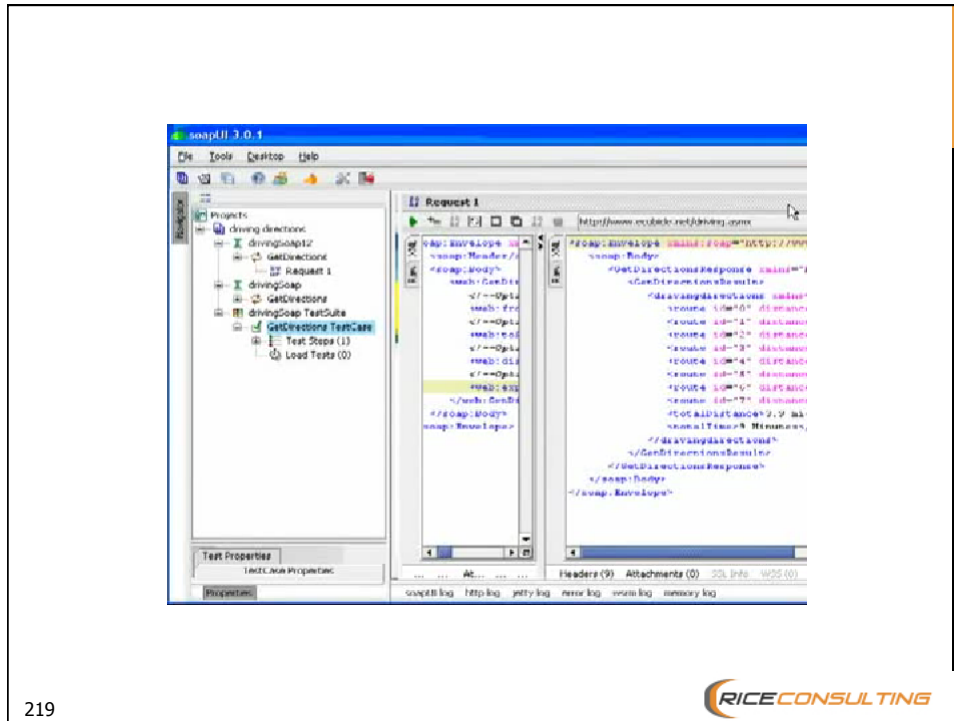
217



218



Free and Cheap Test Tools

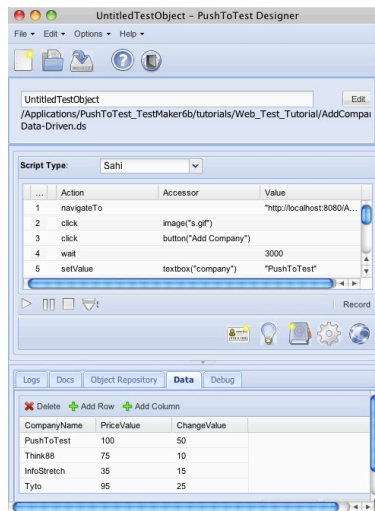


219



PUSHTOTEST

- Tests Web, Rich Internet Applications (RIA, using Ajax, Flex, Flash,) Service Oriented Architecture (SOA,) and Business Process Management (BPM) applications.
- Installs on your desktop, runs tests in grid and cloud environments, and pinpoints root causes and offers mitigation.
- Test scripts can be in Selenium test, Sahi test, soapUI test suite, and unit test written in Java, Ruby, Python, and PHP.
- <http://www.pushtotest.com/>



220



Free and Cheap Test Tools

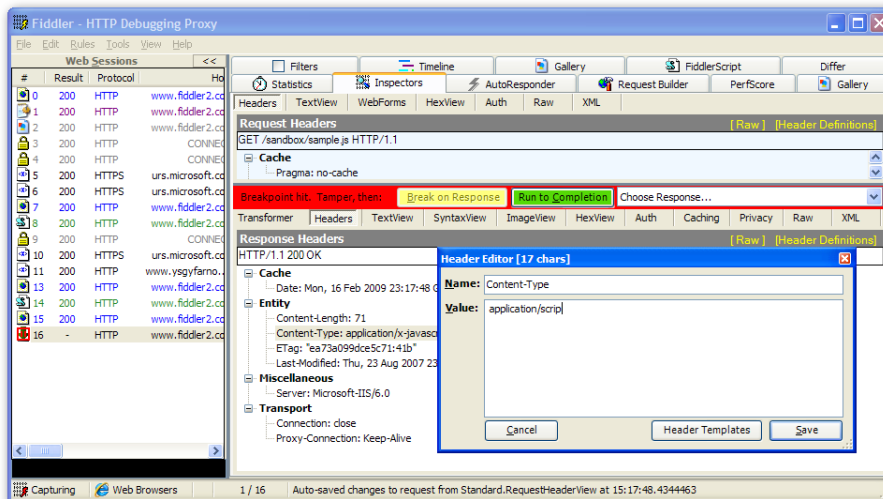
FIDDLER

- **With Fiddler you can easily monitor what's going on under the hood of your HTTP traffic.**
- **You can set breakpoints for certain HTTP requests, you can have it mimic the web server, and it can just function as a proxy, while showing you what's happening.**
- **You can also construct requests in the tool and send that to mimic a client.**

221



FIDDLER (2)

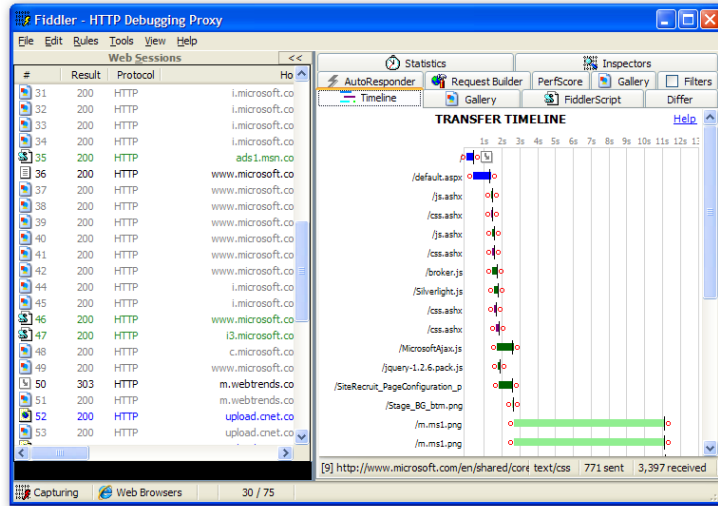


222



Free and Cheap Test Tools

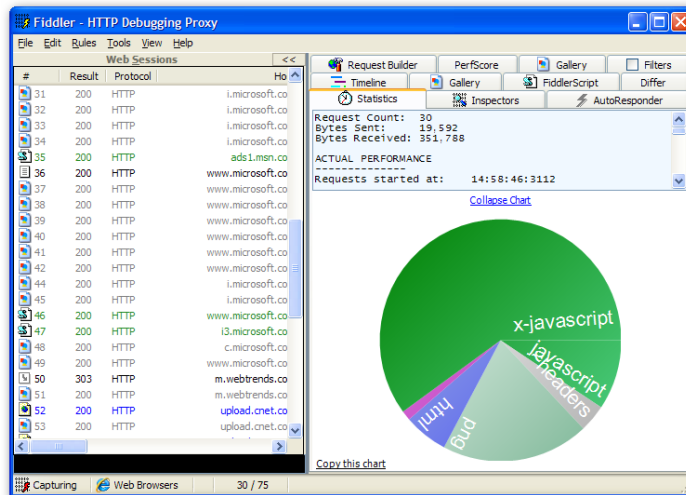
FIDDLER (3)



223



FIDDLER (4)

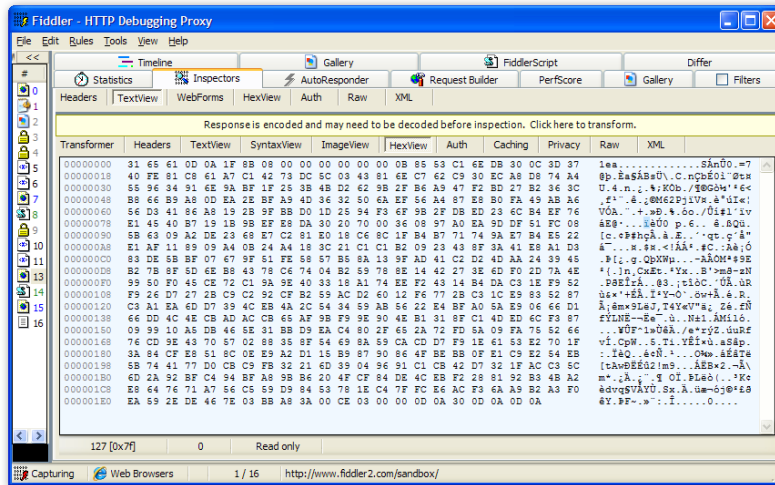


224



Free and Cheap Test Tools

FIDDLER (5)



225



POSTER

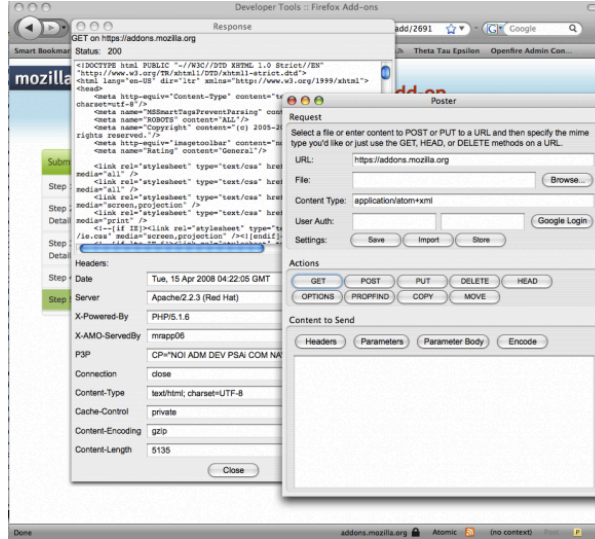
- **Firefox add-on**
 - A developer tool for interacting with web services and other web resources that lets you make HTTP requests, set the entity body, and content type.
 - This allows you to interact with web services and inspect the results.
 - After you install it, just go to Tools->Poster to open the poster window. After that, try a GET or POST on your favorite web service or site.
 - <https://addons.mozilla.org/en-US/firefox/addon/poster/>

226



Free and Cheap Test Tools

POSTER (2)



227



OTHERS?

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228



Free and Cheap Test Tools

WEB TESTING

- **Link Checkers**
 - Link Tiger – www.linktiger.com
 - Xenu – www.xenu.com
 - X3C - <http://validator.w3.org/checklink>
 - Jspider - <http://j-spider.sourceforge.net/>
 - More at http://www.cryer.co.uk/resources/link_checkers.htm
- **Compliance Checkers**
 - <http://www.thefreecountry.com/webmaster/htmlvalidators.shtml>

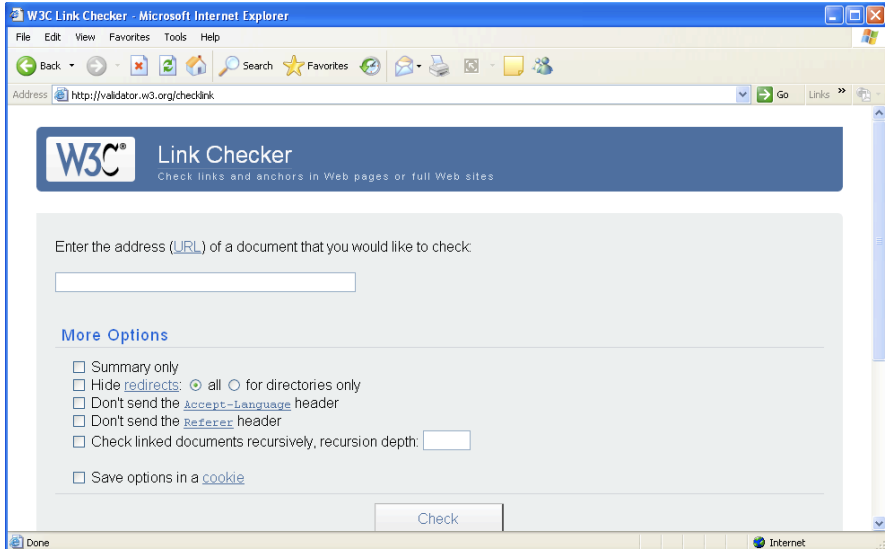
229



230




Free and Cheap Test Tools



The screenshot shows a Microsoft Internet Explorer browser window titled "W3C Link Checker - Microsoft Internet Explorer". The address bar contains "http://validator.w3.org/checklink". The main content area features the "W3C Link Checker" logo and the tagline "Check links and anchors in Web pages or Full Web sites". Below this, there is a text input field with the prompt "Enter the address (URL) of a document that you would like to check". Underneath the input field is a section titled "More Options" with several checkboxes: "Summary only", "Hide redirects: all for directories only", "Don't send the Accept-Language header", "Don't send the Referer header", "Check linked documents recursively, recursion depth: ", and "Save options in a cookie". A "Check" button is located at the bottom right of the form area. The status bar at the bottom of the browser shows "Done" and "Internet".

231



CANOO WEB TEST

- **Canoo WebTest is a free Open Source tool for automated testing of web applications in a very effective way.**
- **<http://webtest.canoo.com>**

232



Free and Cheap Test Tools

CANOO WEB TEST SCRIPTING

Simple Google Test in XML

```
<project default="test">
<target name="test">

  <webtest
    name="check that WebTest is Google's top 'WebTest' result">
    <invoke url="http://www.google.com/ncr"
      description="Go to Google (in English)"/>
    <verifyTitle text="Google" />
    <setInputField name="q" value="WebTest" />
    <clickButton label="I'm Feeling Lucky" />
    <verifyTitle text="Canoo WebTest" />
  </webtest>

</target>
</project>
```

233



PEX AND MOLES

- **Isolation and White box Unit Testing for .NET**
 - Pex automatically generates test suites with high code coverage.
 - Allows the stubbing of .NET methods
 - <http://research.microsoft.com/en-us/projects/pex>
 - The Fakes Framework in Visual Studio 11 is the next generation of Moles & Stubs, and will eventually replace it.

	value
1	null
2	**
3	"\0"
4	":"
5	**

234



Free and Cheap Test Tools

CUITE (CODED UI TEST ENHANCED) FRAMEWORK

- Thin layer developed on top of Microsoft Visual Studio Team Test's Coded UI Test engine.
- Helps reduce code (<10%), increases readability and maintainability, while also providing features for the automation engineer.
- <http://cuite.codeplex.com/>

235



GOOGLE JS TEST

- Fast javascript unit testing framework that runs on the V8 engine, without needing to launch a full browser.
- <http://code.google.com/p/google-js-test/>

236



Free and Cheap Test Tools

GOOGLE JS TEST EXAMPLE

```
RUN      ] UserInfoTest.formatsUSPhoneNumber
OK      ] UserInfoTest.formatsUSPhoneNumber
RUN      ] UserInfoTest.returnsLastNameFirst
er_info_test.js:32
pected: 'Doe, John'
tual:   'John Doe'

FAILED   ] UserInfoTest.returnsLastNameFirst
RUN      ] UserInfoTest.understandsChineseNames
OK      ] UserInfoTest.understandsChineseNames
```

237



REVIEWCLIPSE

- A Free Continuous Code Review Plugin for Eclipse
- <http://www.inso.tuwien.ac.at/projects/reviewclipse/>

238



Free and Cheap Test Tools

REVIEWCLIPSE SCREENSHOT

Review Editor (chris)

From: 01.12.08 To: 31.03.09 Author: Reviewer: Rating: Message:

Changesets under Review

R.	T.	Rev...	Author	Reviewer	Timestamp	Message
✖	dev	235	john	chris	29.01.09 13:57	[dev] FetchUsersAction usw.
✔	dev	235	john	chris	29.01.09 13:56	[dev] Methode in Schnittstelle und Klasse hinzugefügt
✔	dev	205	mike	chris	23.01.09 19:57	[dev] neue Klasse und Änderung
		204	chris	mike	23.01.09 19:23	[dev] system exit added
		139	chris	mike	07.01.09 18:11	sharedproject modified for test
		101	chris	mike	17.12.08 19:11	history.xml model modified
		97	mike	chris	16.12.08 08:56	review.xml removed
		90	chris	mike	13.12.08 10:50	dev moved to trunk
		81	chris	mike	12.12.08 11:22	history.xml updated in best project

Files

Location: /bunk/dev/projects/test.sharedproject

- src/org/reviewclipse/action/UpdateUsersAction.java
- src/org/test/TestAction.java
- src/org/test/impl/TestAction.java
- test.properties

Review

Rating: Warning

Created: 14.02.09 14:54 Last Modified:

Text: Code ok, please more comments for javadoc!

239



STATIC ANALYSIS & CODE METRICS

- **FindBugs**
 - Open source program created by Bill Pugh and David Hovemeyer which looks for bugs in Java code.
 - It uses static analysis to identify hundreds of different potential types of errors in Java programs.
 - <http://findbugs.sourceforge.net/>

240



Free and Cheap Test Tools

COBERTURA

- **Cobertura is a free Java tool that calculates the percentage of code accessed by tests.**
 - It can be used to identify which parts of your Java program are lacking test coverage. It is based on jcoverage.

241



SAMPLE COBERTURA OUTPUT

Coverage Report - All Packages

Package /	# Classes	Line Coverage	Branch Coverage	Complexity
All Packages	55	75% 1629/2175	64% 472/738	2,319
net.sourceforge.cobertura.ant	11	52% 129/248	43% 4/26	1,848
net.sourceforge.cobertura.coveragedata	3	0% 0/180	0% 0/78	2,429
net.sourceforge.cobertura.instrument	13	N/A	N/A	2,277
net.sourceforge.cobertura.instrument	10	90% 460/510	75% 123/164	1,854
net.sourceforge.cobertura.merge	1	86% 30/35	88% 14/16	5,5
net.sourceforge.cobertura.reporting	3	87% 166/191	80% 43/56	2,882
net.sourceforge.cobertura.reporting.html	4	91% 475/523	77% 156/200	4,444
net.sourceforge.cobertura.reporting.html.files	1	87% 39/45	62% 5/8	4,5
net.sourceforge.cobertura.reporting.xml	1	100% 135/135	95% 11/12	1,524
net.sourceforge.cobertura.util	9	60% 179/297	69% 70/102	2,892
someotherpackage	1	83% 5/6	N/A	1,2

Report generated by Cobertura 1.9 on 6/9/07 12:37 AM.

242



Free and Cheap Test Tools

COBERTURA FEATURES

- **Can be executed from ant or from the command line.**
- **Instruments Java bytecode after it has been compiled.**
- **Can generate reports in HTML or XML.**
- **Shows the percentage of lines and branches covered for each class, each package, and for the overall project.**

243



COBERTURA FEATURES (2)

- **Shows the McCabe cyclomatic code complexity of each class, and the average cyclomatic code complexity for each package, and for the overall product.**
- **Can sort HTML results by class name, percent of lines covered, percent of branches covered, etc. And can sort in ascending or descending order.**
- **<http://cobertura.sourceforge.net/>**

244



Free and Cheap Test Tools

OTHERS?

- _____
- _____
- _____
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- _____
- _____

245



VIRTUAL TEST ENVIRONMENTS

- **<http://www.virtualbox.org/>**
 - Free, open source
 - runs on Windows, Linux, Macintosh and OpenSolaris hosts and supports a large number of guest operating systems including but not limited to Windows (NT 4.0, 2000, XP, Server 2003, Vista, Windows 7), DOS/Windows 3.x, Linux (2.4 and 2.6), Solaris and OpenSolaris, and OpenBSD.

246



Free and Cheap Test Tools

VIRTUAL TEST ENVIRONMENTS (2)

- **Windows Virtual PC**
 - Free
 - Windows only
 - www.microsoft.com

247



QUALITY MANAGEMENT

- **SpagoWorld – Spagoworld.org**
 - **Spago4Q** - The free/open source platform to measure, analyze and monitor Quality of products, processes and services
 - **SpagoBI** – Open Source Business Intelligence suite
 - **Spagic** - The free/open source platform for the governance of middleware services and the development of SOA applications
 - **Spago** - The Java Enterprise Framework for the development of web and multichannel applications in SOA environments

248



Free and Cheap Test Tools

SPAGO4Q



249

RICECONSULTING

ONLINE COLLABORATION TOOLS

- **Web Presentations**
 - Anymeeting.com
 - www.Mikogo.com
 - www.joinme.com
 - www.vyew.com
- **Conference Calls**
 - TalkShoe – www.talkshoe.com
 - Great for distributed teams who want to talk for free.
 - Recordable and private

250

RICECONSULTING

Free and Cheap Test Tools

SUMMARY

- **These tools can all be helpful in different ways.**
- **With test tools, you don't always get what you pay for, so regardless of the price do a decent evaluation.**
- **Free and cheap tools allow you to obtain and learn tools on your own.**
 - This helps in building your personal tool kit.

251



RESOURCES

- **www.opensourcetesting.org**
- **www.openqa.org**
- **www.testertools.com**
- **<http://www.toolsjournal.com/testing-lists/item/473-top-10-usability-testing-tools-for-your-website>**
- **www.riceconsulting.com/cheaptools.htm**
 - I keep this page updated as I learn of new tools.
 - Let me know if you find a new one!

252



Free and Cheap Test Tools

BIO - RANDALL W. RICE

- **Over 34 years experience in building and testing information systems in a variety of industries and technical environments**
- **ISTQB Certified Tester – Foundation level (CTFL), Advanced Level (CTAL) Full**
- **Director, American Software Testing Qualification Board (ASTQB)**
- **Chairperson, 1995 - 2000 QAI's annual software testing conference**
- **Co-author with William E. Perry, *Surviving the Top Ten Challenges of Software Testing* and *Testing Dirty Systems***
- **Principal Consultant and Trainer, Rice Consulting Services, Inc.**

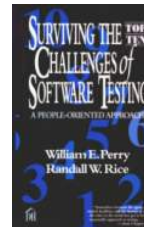


253



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254

