

# Software Test Certification Report

*For*

## American Software Testing Qualifications Board (ASTQB)

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## 1. Title

Software Test Certification Report

## 2. Purpose

The purpose of this document is to report on the research findings of the following software-test-centric certification programs:

- International Institute for Software Testing (IIST) Certified Software Test Professional (CSTP)
- Quality Assurance Institute (QAI) Certified Software Tester (CSTE)
- International Software Testing Qualifications Board (ISTQB) Certified Tester, Foundation Level (CTFL)

## 3. About ASTQB

The American Software Testing Qualifications Board (ASTQB) is a group of highly experienced experts in software testing who volunteer their time to the development, maintenance, and promotion of the ISTQB Certified Tester program in the U.S. They also represent U.S. interests internationally as the national board for the U.S. within the ISTQB. The ASTQB is a non-profit organization. ASTQB was founded in 2003 as the American Testing Board. In April 2005, the name was changed to the American Software Testing Qualifications Board. Through the involvement of the world's foremost experts in software testing, the program was developed for software professionals who want to prepare today's professionals by anticipating tomorrow's software testing demands.

## 4. About RapidSQA

As New England's leading Software Engineering Service Provider (SESP), RapidSQA helps companies achieve Rapid Quality Improvement (RQI) through practical training, certification exam preparation, and consulting solutions. RapidSQA has been assisting software professionals in preparing for certification exams, including the IEEE Certified Software Development Professional (CSDP), the QAI Certified Software Tester (CSTE), the ASQ Certified Quality Manager (CQM), the ASQ Certified Software Quality Engineer (CSQE), and the new ISTQB Certified Tester. Since 2001 software professionals have taken RapidSQA's exam review courses and passed their exam - the first time. Our clients include the ASQ Boston Section, the IEEE Boston Section, MIB, Northeastern University, Software Quality Associates, and VeriTest. Our RapidSQA™ methodology for Web testing has helped companies with continuous quality improvement in abbreviated timeframes.

## 5. Introduction

ASTQB commissioned RapidSQA to write this report summarizing three certification programs that are currently available to software test professionals: CSTP, CSTE, and CTFL. This report contains information about each of these certifications as well as a table/matrix comparing each program.

## 6. Scope

This report focuses on the basic or foundational level, software-test-centric certification programs from IIST, QAI, and ISTQB. This report does not contain comparative information (in the Software Test Certification Program Comparison Matrix) on the following advanced-level certification programs:

- ISTQB Certified Tester Advanced Level (CTAL)
- ISTQB Certified Tester Advanced Level (Full)
- QAI Advanced Software Tester (ASTE)
- QAI Master Software Tester (MSTE)

## **7. IIST Certified Software Test Professional (CSTP)**

### **7.1 Background**

In 1999 the International Institute for Software Testing (IIST) formed an Advisory Board of industry experts and practitioners to provide direction to the effort of developing education-based certifications. Their belief is that the value of any certification program lies in its ability to meet individuals' diverse needs and interests for both breadth and depth of content so that it helps them improve the way they perform their job on a day to day basis.

To achieve this goal, IIST offers certification programs that are based on well-defined Bodies of Knowledge approved by IIST's Advisory Board. To achieve a certification, a candidate must attend and pass an examination on each of ten (10) courses of the candidate's own choice, where each of the Body of Knowledge subject areas must be addressed by at least one course.

### **7.2 Evaluation**

The CSTP credential is unique in that it is the only software-test-centric certification program that is education-based, meaning that to become certified you have to take training courses and pass a written (final) exam administered at the end of each course. This differs dramatically from the CTFL and CSTE certifications that are exam-based, meaning that to become certified you have to pass an examination. Because of this distinction, many software test professionals view this program more of a certificate than a certification, similar to what many colleges and universities offer as part of their professional/continuing education programs whereby you take the required courses and upon graduation, obtain a certificate.

One reason explaining the low numbers of CSTPs in comparison to CTFLs and CSTE is the tuition associated with these courses: it can cost over \$5,000 to enroll in ten (10) IIST public training courses required to become a CSTP. Typically, students enroll in these public training courses and take 5 courses in-a-row (1 course per day) during IIST's International Testing Certification Weeks offered in select U.S. cities throughout the year or during IIST's conferences offered periodically throughout the year. Because of the limited reach of these two instructional delivery vehicles, students may have to incur additional travel costs (air, hotel, car, etc.) to be able to attend these events. Alternatively, IIST offers on-site training to help eliminate travel costs. Moreover, IIST offers six (6) CSTP courses on-line via WebEx's Training Center software (Web Conferencing tool using audio with PowerPoint slides) for \$395/course, almost 25% less than the \$539/course tuition from its public training courses.

While IIST provides candidates with an outline of the CSTP Body of Knowledge, they offer no formal publication like ISTQB and QAI for students to use as a study guide to prepare for the CSTP certification. Instead, CSTP Body of Knowledge content is dependent upon the particular course that students enroll in which, in turn, is dependent on the particular instructor who teaches that course and developed its content.

## **8. QAI Certified Software Tester (CSTE)**

### **8.1 Background**

Quality Assurance Institute (QAI) was established in 1980 as a professional association formed to represent the software quality assurance industry. The first certification began development in 1985 and the first formal examination process was launched in 1990. Today, Software Certifications, administered by QAI, has certified over 20,000 IT professionals.

The Certified Software Tester (CSTE) certification is intended to establish standards and provide direction for the testing function through an educational program. Acquiring the designation of Certified Software Tester (CSTE) indicates a level of understanding of the principles and practices of IT quality control. CSTE's become members of a professional group and receive recognition by business and professional associates, potential career advancement, and greater acceptance as an advisor to management.

### **8.2 Evaluation**

Software Certifications has implemented two new changes to the CSTE certification program for 2006: 1) an updated Body of Knowledge and b) candidates no longer have to submit a Character Reference letter as part of the application process. Moreover, true/false questions have been eliminated from the certification exam. Like the CTFL, no formal software-test-related work experience is required to sit for the exam. Similar to ISTQB, Software Certifications now offers two additional levels of advanced certifications: the ASTE and the MSTE. Achieving the ASTE certification is expensive (\$1,800) involving the candidate completing five QAI-approved projects corresponding to the domains noted in their Body of Knowledge while detailed information about the MSTE has yet to be revealed.

Students have to submit their application to Software Certifications no later than sixty days prior to the desired examination sitting date, a lengthy lead time. In addition, the certification process is quite application-intensive (as is the recertification process). Along with the initial application fee (\$350), candidates obtain a CD-ROM (\$60 if purchased separately) containing the Guide to the CSTE Common Body of Knowledge. The hardcopy version of these self-study materials, although expensive (\$100), is the most comprehensive and detailed certification study guide among the certifications. The examination schedule is dependent upon the generosity of QAI Federation Chapters that coordinate with area companies to make examination locations available to candidates. Because this exam is hand-graded, candidates have to wait for an unusually long period of time (2½ months) to hear back whether or not they were certified.

## 9. ISTQB Certified Tester, Foundation Level (CTFL)

### 9.1 Background

The British Information Systems Examination Board (ISEB) of the British Computer Society (BCS), in cooperation with the International Software Testing Qualifications Board (ISTQB), organized by ASQF and International Software Quality Institute (ISQI), introduced an international standard for software testers. At both the Foundation Level and the Advanced Level the programs supporting the ISTQB Certified Tester bridge the gap between research, standard training and industry practice.

The independent certification of software testers began in the UK with the British Computer Society's Information Systems Examination Board (ISEB), when a Software Testing Board was set up in 1998. In 2002, ASQF in Germany began to support a German tester qualification scheme. The ISTQB Certified Tester program started in January 2002. Approximately 30,000 software testers currently hold ISTQB compliant certificates.

### 9.2 Evaluation

Compared to the CSTEP and the CSTE, the CTFL is the newest certification contender in this category. Due to its European roots, the CTFL certification may be less familiar to candidates compared to the ones offered by American-based IIST and QAI.

In keeping with software-test-centric certification trends, this certification is available in three stages or level: Foundation Level, Advanced Level, and Advanced Level (Full). For the Foundation Level, candidates are required to pass a 1-hour, 40-question multiple-choice examination. The passing score of 60% is well below the other certifications' passing scores (75% for the CSTE and 80% for the CSTEP). Because of this, the CTFL is perhaps the easiest of the three certifications mentioned in this report to achieve.

The Certified Tester, Advanced Level (CTAL), on the other hand, raises the bar by requiring five years of relevant work experience (a Bachelor's degree or higher may be substituted for up to two years of work experience) and a CTFL certification. To become a CTAL you must pass at least one of three different component (separate) exams in the following areas: Technical Tester, Functional Tester, and Test Manager (if you pass all three exams you obtain the Advance Level (Full) designation) with a slightly-higher passing score of 65% compared to the CTFL. The total costs associated with the CTAL (Full) certification are noticeably higher as well (\$700 vs. \$250 for the CTFL) with the added distinction of forthcoming recertification requirements.

ISTQB makes available to candidates two free documents for preparing for the certification exam: the Foundation Level syllabus (equivalent to a Body of Knowledge) and the ISTQB Glossary of Testing Terms (QAI charges \$100 for their equivalent Body of Knowledge while IIST offers neither). The syllabus is a detailed study guide to the six (6) main areas that students will be tested on: Basics of Software testing, Life Cycle Testing, Dynamic Test, Static Test, Test Management, and Testing Tools. This syllabus is based on the ISEB and ASQF syllabi; it includes reorganized, updated and some new content, and the emphasis is directed at topics that will provide the most practical help to testers.

**10. Software Test Certification Program Comparison Matrix**

	<b>IIST Certified Software Test Professional (CSTP)</b>	<b>QAI Certified Software Tester (CSTE)</b>	<b>ISTQB Certified Tester, Foundation Level (CTFL)</b>
General Information			
Vendor	International Institute for Software Testing (a division of Software Dimensions Consulting and Training, Inc.)	Software Certifications (a division of the Quality Assurance Institute)	American Software Testing Qualifications Board (ASTQB)
Location	Golden Valley, MN	Orlando, FL	Tampa, FL
URL	www.testinginstitute.com	www.softwarecertifications.org	astqb.org
Certification Program Type	education-based	exam-based	exam-based
Certification Levels	N/A	Advanced (ASTE); Master (MSTE)	Foundation Level; Advanced Level; Advanced Level (Full)
First Started Certifying	1999	1996	2002
Total # Active Certifications	551 (see note a)	3,501 (see note b)	644 (see note c)
Certification Requirements			
Body of Knowledge areas	Principles of Software Testing; Test Design; Managing the Testing Process; Test Executions and Defect Tracking; Requirements Definitions, Refinement and Verification; Test Automation; Static Testing	CSTE: Software Testing Principles and Concepts; Building the Test Environment; Managing the Test Project; Test Planning; Executing the Test Plan; Test Status, Analysis and Reporting; User Acceptance Testing; Testing Software Developed by Outside Organizations; Testing Software Controls and the Adequacy of Security Procedures; Testing New Technologies	CTFL: Basics of Software testing; Life Cycle Testing; Dynamic Test; Static Test; Test Management; Testing Tools
Work Experience	1 year (letter of support required)	0 years (BS degree); 2 years (AS degree); 6 years (no degree)	none
Formal Education	(10) days (2 may come from non-IIST vendor); \$25 eval fee/course	not required	none
Exam	yes (10)	yes (1)	yes (1)
Code of Ethics	no	yes	no
Exam Details			
Type of Exam	closed book	closed book	closed book
Exam Format	(10) essays for each of the (10) courses	multiple choice, essay, short answer	(40) multiple choice questions
Exam Duration	N/AV	4.5 hours	1 hour
Exam Dates	varies	March, June, September, December	varies
Exam Locations	varies	varies	varies
Passing Score	80% (for each exam)	75% (in each of 4 parts)	60%
Exam Retake	yes (1 time only)	yes	N/AV
Time Limit	5 years (to complete 10 days of training)	N/A	N/A

	<b>IIST Certified Software Test Professional (CSTP)</b>	<b>QAI Certified Software Tester (CSTE)</b>	<b>ISTQB Certified Tester, Foundation Level (CTFL)</b>
Recertification			
Period	3 years	3 years	lifetime
Denomination	Educational Units (EUs)	Continuing Professional Education (CPE) activities	N/A
Distribution	10 EUs	120 CPEs	N/A
Recertification activities	Courses; conference presentations; publications; attending conferences; Web-based courses	Education; Publications; Teaching; Professional Participation; Self-Study; Unique & Innovative Job Tasks; On-the-Job Activities	N/A
Additional requirements	Work experience (letter of support required)	N/AV	N/A
Costs			
Application fee	\$120	\$350	\$250
Additional fees	\$5,390 (for (2) 5-day International Testing Certification Weeks @ \$2,695/week)	N/A	N/A
Study materials	included	\$50 - \$100	\$0
Training course	N/A	\$300 - \$500 (optional)	\$1,999 - \$2,145 (optional)
Travel (est.)	\$0 - \$2,000	\$0 - \$500	\$0 - \$1,500
Exam Retake Fee	\$50	\$100	N/AV
Recertification fee	\$180	\$100	N/AV

**NOTES:**

(a) as of 12/31/05; this total is only the number of CSTP graduates who have granted IIST consent to have their names published on their Web site

(b) as of 1/25/06

(c) as of 2/18/06 for the CTFL in the USA; approximately 30,000 software testers currently hold ISTQB compliant certificates

N/A = not applicable

N/AV = not available



## 11. Summary

IT professionals have several options for pursuing software-test-centric certifications from IIST, ISTQB, and QAI. Each organization offers their own interpretation of what they consider to be the knowledge and experience required to earn this credential from them. Software test professionals who are considering getting certified should closely examine three primary areas prior to making a decision:

1. Requirements/Eligibility: What education and/or work experience do candidates need to have in order to apply to the certification program?
2. Body of Knowledge: What information does the candidate need to know in order to pass the exam(s)?
3. Recertification: What activities will candidates need to pursue in order to maintain their certification?

Based on the quantity of information contained in these Bodies of Knowledge that candidates need to know to adequately prepare for passing a certification exam, it is recommended that students wishing to pursuing the CTFL or CSTE certification take a certification exam preparation course prior to sitting for the exam to ensure the maximum possibility for passing the exam – the first time.