Discover 2013
It’s time to build a better enterprise. Together.

June 2013

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- Global trends in the Testing & Quality Assurance space
- Fifth edition to be released in September, 2013
- Analysis based on 1,500 phone interviews
- Only companies with 1,000 or more employees participated in survey.
- Respondents are a controlled mix of CIOs, VP Applications, IT Directors and QA/Testing Managers.
- Vertical and country controls were also used to shape the targeting of the study to enable us to have sufficient data for sturdy analysis levels along those controls
- Sample characteristics kept similar for year-on-year statistical comparisons
Regional Breakdown

- Western Europe, 29%
- North America, 20%
- Latin America, 5%
- UK & Ireland, 10%
- Nordics, 12%
- Australia & New Zealand, 6%
- South East Asia, 9%
- Eastern Europe, 6%
- Southern Europe, 3%
- North America, 20%
- Latin America, 5%
- UK & Ireland, 10%
- Nordics, 12%
- Australia & New Zealand, 6%
- South East Asia, 9%
- Eastern Europe, 6%
- Southern Europe, 3%
Industry Breakdown

- Financial Services, including Capital Markets, Banking and Insurance, 26%
- Public Sector/Retail, Distribution and Logistics, 6%
- Transportation, 5%
- Energy, Utilities, and Chemicals, 6%
- Health & Life Sciences, 10%
- High Tech (inc. Hardware Manufacturers) + Aerospace & Defense, 6%
- Manufacturing, 6%
- Telecommunication, Media & Entertainment, 17%
- Consumer Products, Retail, Distribution and Logistics, 6%
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Company Size Breakdown & Job Function Breakdown – Based on number of employees and job functions

- 10,000 and above, 37%
- 5,000-9,999, 35%
- 1,000 to 4,999, 28%
- CIO, 34%
- QA / Testing Manager, 21%
- VP of Applications, 20%
- IT Director, 26%
Testing Budgets
What is the percentage of the budget allocated for the testing function (including testing processes, tools and human resource costs) related to the total 2013 IT budget? What is your expectation for 2015?

<table>
<thead>
<tr>
<th>Sample: All But QA/Testing Managers</th>
</tr>
</thead>
</table>

- **Current % of total IT budget**:
  - 2012: 18%
  - 2013: 23%

- **Expected % of total 2015 IT budget**:
  - 28%

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How is the 2013 testing budget split between maintenance work versus new development? How do you expect it to be in 2015?

Sample: All But QA/Testing Managers

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2013</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintenance work</td>
<td>59%</td>
<td>54%</td>
<td>51%</td>
</tr>
<tr>
<td>New transformational work</td>
<td>41%</td>
<td>46%</td>
<td>49%</td>
</tr>
</tbody>
</table>
What is the percentage of the testing budget allocated to each of the following compared to the total testing budget?

- Staffing / human resources: 23%
- Tools (software licenses): 28%
- Testing hardware and infrastructure: 40%

Sample: All But QA/Testing Managers
Testing Organization & Centres of Excellence
How is the testing function structured within your organization?

- **Centralized as one stream across the organization**: 8% (2012), 26% (2013)
- **A combination of centralized and decentralized teams**: 43% (2012), 35% (2013)
- **Highly decentralized across different Business Units/Geographies/Divisions**: 27% (2012), 13% (2013)
- **Testing execution function is handled by an external vendor (Managed Testing Service)**: 2% (2012), 12% (2013)
- **No separate testing stream exists within the organization**: 20% (2012), 14% (2013)

Sample: CIO/IT Director Only
What is the engagement model adopted for the testing function at your company? Please consider your entire testing organization, regardless of the tester’s actual geographical location, and provide a percentage breakdown of your model for each of the following…

- **Internal/In-House**: 41% (2013), 51% (2012)
- **External / Managed Services** - external vendor manages and owns the testing delivery function and reports back to you on results: 20% (2013), 13% (2012)
- **Staff Augmentation/Temporary Contractors/Professional Service on Time and Materials basis** where you manage these resources as extension of your team: 14% (2013), 13% (2012)
- **Co-managed** - both you and a project manager from a Professional Services vendor manage the testing activities together: 14% (2013), 11% (2012)
- **Capped or Fixed Capacity Professional Service** (fixed number of man-days for a project) where you manage these resources as extension of your team: 12% (2013), 13% (2012)

*Sample: All Respondents*
Which of the following best reflects your company's plans to create a standardized/industrialized testing centre of excellence (TCoE)?

- **No plans in place**: 26% (2013), 34% (2012)
- **Plan to develop internally managed TCOE within the next 2 years**: 23% (2013), 24% (2012)
- **Plan to use a 3rd party company with a TCOE capability**: 19% (2013), 21% (2012)
- **In house TCOE started within last 2 years, but not yet fully operational**: 13% (2013), 15% (2012)
- **TCOE is fully operational**: 6% (2013), 19% (2012)

Sample: CIO/IT Director Only
What are the main barriers that you find in setting up a Test Center of Excellence?

- Lack of methods: 66%
- Lack of skilled resources: 52%
- Organizational control issues (central vs decentral): 42%
- Lack of tools & infrastructure: 37%

Sample: CIO/IT Director Only
Which of the following were the main business reasons for outsourcing?

Sample: CIO/IT Director Only who answered 'yes' to outsourcing

- Reduction of test costs: 57%
- Free up internal resources to focus on core activities: 50%
- Improving software quality after test: 45%
- Faster time to market of projects: 40%
- Improve flexibility of test capacity: 38%
- Improve IT maturity: 33%
Testing and Mobility
Does your organisation currently test mobile applications and devices?

Sample: All Respondents

2012
- Yes: 31%
- No: 69%

2013
- Yes: 45%
- No: 55%
What is the greatest challenge in testing mobile applications and devices?

- Don't have the right testing process / method: 34% (2013), 56% (2012)
- Don't have the devices readily available: 52% (2013), 52% (2012)
- No mobile testing experts available: 29% (2013), 48% (2012)
- Don't have in-house testing environment: 19% (2013), 38% (2012)
- Don't have the right tools to test: 37% (2013), 65% (2012)
- Not enough time to test: 18% (2013), 33% (2012)

Sample: All Respondents Testing Mobile Apps and Devices
In which of the following areas do you focus your efforts when testing mobile applications?

- **Efficiency / Performance (including network-related):**
  - 2013: 59%
  - 2012: 64%

- **Security (protection of sensitive data on the phone or over the air):**
  - 2013: 56%
  - 2012: 18%

- **Functionality:**
  - 2013: 43%
  - 2012: 48%

- **Portability (the same binaries could be executed on different devices powered by the same technology):**
  - 2013: 38%
  - 2012: 46%

- **User interface / Ease of Use:**
  - 2013: 36%
  - 2012: 36%

- **Certification of Application:**
  - 2013: 34%
  - 2012: 14%

- **Compatibility/Regression Testing:**
  - 2013: 29%
  - 2012: 31%

*Sample: All Respondents Testing Mobile Apps and Devices*
Testing in the Cloud
What percentage of your testing occurs in a Cloud-based test environment now? What do you expect in 2015?

Sample: All Respondents

- Percentage of testing in a Cloud-based environment now:
  - 2012 Responses: 28%
  - 2013 Responses: 24%

- Percentage of testing in a Cloud-based environment in 2015:
  - 2012 Responses: 39%
  - 2013 Responses: 32%
What type of applications do you test using the Cloud-based test environment and what percentage does each account for?

Sample: All respondents who do testing on Cloud

<table>
<thead>
<tr>
<th>Type of Application</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>External (non-critical)</td>
<td>12%</td>
<td>28%</td>
</tr>
<tr>
<td>External (critical)</td>
<td>20%</td>
<td>30%</td>
</tr>
<tr>
<td>Internal (non-critical)</td>
<td>26%</td>
<td>25%</td>
</tr>
<tr>
<td>Internal (critical)</td>
<td>41%</td>
<td>17%</td>
</tr>
</tbody>
</table>

Sample: All respondents who do testing on Cloud
For software applications delivered as a service (SaaS) such as SFDC including customized plug-ins, how does your organization test in the cloud?

Sample: All respondents who do testing on Cloud

- 54% pay special attention to performance requirements and risks
- 48% pay special attention to data security requirements and risks
- 44% pay special attention to peak load requirements and risks
- 29% do not use a specific approach to test cloud based services
Which of the following do you use to test the application migration to cloud?

- We pay special attention to data security requirements and risks 52%
- We validate that the functionality works for an application that is migrated to the cloud 45%
- We pay special attention to peak load requirements and risks 38%
- We pay special attention to system recovery test 32%
- We pay special attention to performance requirements and risks 31%
- We do not use a specific approach to test migration of applications to the cloud 25%

Sample: All Respondents
Testing in an Agile Environment
Are you using a special approach for testing in agile projects?

- No, we do not have a specific approach for agile testing: 46%
- We use exploratory testing: 42%
- We use DSDM test principles: 40%
- We use agile TMap principles: 37%
- We use other: 8%
- Not applicable as we do not use agile development methods: 17%

Sample: All Respondents
Which of the following are the challenges you are facing in applying testing to agile development? Please choose all that apply.

- Lack of a good testing approach that fits with the agile development method (64%)
- Inability to apply test automation at appropriate levels (56%)
- Difficulty in identifying the right areas on which test should focus (49%)
- Lack of the right test tools to create re-usable test sets (39%)
- Lack of professional test expertise in agile teams (36%)
- Difficulty to re-use and repeat tests across sprints/iterations (35%)
- No real difficulties with testing in agile (13%)

Sample: All Respondents
Testing Infrastructure & Tools
Does your organization maintain and use a permanent testing environment, separated from production environments? If not, does your organization set-up temporary testing environments? Do you use cloud-based environments to set up temporary testing environments?

- Permanent Test Environment: 63%
- Temporary Cloud-Based Test Environment: 12%
- Temporary Test Environment (Other): 12%
- Neither: 13%

Sample: All Respondents
Which of the following challenges (if any) does your organisation encounter with provisioning of test environments to test teams?

- Lack of availability of right tools for testing: 67%
- Having to maintain multiple versions of hardware, middleware and systems under test: 53%
- Lack of clarity on efficient usage of available configuration: 45%
- Lack of availability of right hardware (servers, storage, networks, working stations etc.): 44%
- Inability to establish testing environments in a timely manner: 37%
- Lack of availability of right operating systems and database management systems: 36%

Sample: All Respondents
Which of the following are the challenges faced in managing the test data?

- Having to maintain the right test data set versions with different test versions: 65%
- Managing the size of test data sets: 56%
- Complying with data security and data privacy regulations for test data: 44%
- Creating and maintaining test data which are not copies from production data: 44%
- Creating and retaining useful copies from production data: 43%
- Lack of test data for complex integration testing across systems and organizations: 37%

Sample: All Respondents
World Quality Report 2013-14

- Publishing Date: 12th September (Online & Printed)
- Full report (approx. 80 pages) available to download on capgemini.com and hp.com

- Main report sections will cover:
  - Testing Budgets
  - Testing Organization & Centres of Excellence
  - Mobile Testing
  - Cloud & Quality Assurance
  - Testing in Agile Development Environment
  - Testing Infrastructure & Tools
  - Sector Views: Telecoms, Financial Services, Public Sector, Consumer Products; Retail & Distribution, Energy & Utilities.

- Country Pullouts: Australia & NZ, North America, UK, Nordics, France, Brazil, China, Eastern Europe, Germany, Benelux
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About Capgemini and Sogeti

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The Capgemini Group has created one of the largest dedicated testing practices in the world, with over 11,000 test professionals and a further 14,500 application specialists, notably through a common center of excellence with testing specialists developed in India. Together Capgemini and Sogeti have developed innovative, business-driven quality assurance (QA) and testing services, combining best-in-breed testing methodologies (TMap® and TPI®) to help organizations achieve their testing and QA goals.

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