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MARKET ANALYSIS

Worldwide Distributed Automated Software Quality Tools 2004–2008 Forecast and 2003 Vendor Shares

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IDC OPINION

The distributed segment of the automated software quality (ASQ) tools market led the recovery last year of the overall ASQ tools market, growing to $659 million in 2003, an 11.7% increase over 2002. IDC remains optimistic for the future growth prospects of the distributed ASQ market and predicts that distributed ASQ market revenue will attain $1.339 billion in 2008. The criticality of software to the business, the increasing complexity of software applications and systems, and the relentless business pressures for quality, productivity, and faster time to market have all been positive drivers in the past and will continue to be in the foreseeable future. Highlights are as follows:

- Once again, the market for distributed ASQ tools outperformed the overall ASQ market by a considerable margin. The recovery in 2003 was even stronger than we had predicted it would be.
- The distributed segment of the ASQ market is where virtually all of the overall ASQ growth will be realized over the forecast period. By 2008, more than 85% of the worldwide ASQ market revenue will be attributable to the distributed segment.
- The distributed sector of the ASQ market is where new test tools and methodologies will surface first. There is plenty of opportunity for vendors that deliver unique technological and business model innovations to be first to market with the tools and solutions to fulfill market needs.

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IN THIS STUDY

This IDC study examines the distributed automated software quality tools market for the period 2001–2008, with vendor revenue trends and market growth forecasts. Worldwide market size is provided for 2003, with trends from 2002. A vendor competitive analysis, with vendor revenue and market shares of the leading vendors, is provided for 2003. This study also provides profiles of leading vendors and identifies the characteristics that vendors will need to be successful in the future.

The vendor shares and competitive analysis contained herein represent a subset of the overall automated software quality tools market. Market sizing and vendor shares for the total ASQ market may be found in *Worldwide Automated Software Quality Tools 2003 Vendor Shares* (IDC #31712, August 2004). The most recent 2004–2008 forecast for the overall ASQ market is contained in *Worldwide Automated Software Quality Tools 2004–2008 Forecast Update: July 2004* (IDC #31577, July 2004).

Methodology

See the Learn More section of this document for a description of the data collection and analysis methodology employed in this study.

In addition, please note the following:

- The information contained in this study was derived from the IDC Software Market Forecaster database as of July 5, 2004.
- All numbers in this document may not be exact due to rounding.
- For more information on IDC's software definitions and methodology, see *IDC's Software Taxonomy, 2004* (IDC #30838, February 2004).

Automated Software Quality Tools Market Definition

Automated software quality tools support software unit testing or system testing or both; they also support software quality assurance. Functions such as test specification, generation, execution, results analysis, and "bug tracking," as well as test and QA management, are included in this category.

Automated Software Quality Tools for Distributed Environments

The focus of this study is what IDC formally terms "ASQ tools for distributed environments." IDC defines the ASQ for distributed environments market segment as one that includes those tools for which the primary focus is ensuring the quality of distributed applications. It is called a submarket in the IDC software taxonomy because it is a subset of the overall ASQ market.

Examples of distributed environments include traditional client/server custom applications, ERP and other client/server packaged applications, and the full spectrum of Internet/intranet/extranet applications. Tools in this segment include functional testing, load or performance testing, regression testing, and QA process management tools targeted at distributed environments. Mainframe-based ASQ tools as well as those aimed at standalone PC or minicomputer environments are excluded. Also excluded are special-purpose testing tools such as those used for device driver testing, embedded systems, or voice applications.

Developer-centric testing products used for such tasks as test coverage and runtime error checking are also included in the distributed ASQ submarket. Increasingly, modern development methodologies, and the testing tools that support them, are beginning to blur the distinction between development and quality assurance testing functions. Therefore, excluding this class of tools is not meaningful.

SITUATION OVERVIEW

The Distributed Automated Software Quality Tools Market in 2003

The distributed segment of the automated software quality tools market bounced back from its one-year decline in 2002 and led the overall ASQ tools market recovery in 2003. The distributed ASQ market grew to $659 million in 2003, an 11.7% increase over 2002 — an even stronger recovery than we had predicted.

Performance of Leading Vendors in 2003

Table 1 displays 2001–2003 worldwide revenue and 2003 growth and market share for vendors of ASQ tools for distributed environments. Mercury Interactive continued as the market revenue leader and increased its market share over 2002 to 55.6%. Mercury initiated a subscription business model for its test tools business in 2002 and now sells a substantial percentage of its ASQ licenses as subscriptions rather than perpetual licenses. The portion of its subscription bookings that must be recognized in future years due to GAAP accounting rules is recorded as deferred revenue. (See *Software Revenue Recognition Policies and Their Effects on Market Data,* IDC #29458, May 2003, for a more complete discussion of IDC's treatment of deferred revenue.)

IBM continued in second place with its Rational products (22.5% share); Compuware again placed third (9.7% share), followed by Segue (4.1% share) and Empirix (3.1% share). The market for distributed ASQ tools continues to consolidate and mature, with the top 3 vendors (Mercury, IBM, and Compuware) now accounting for 87.8% of the worldwide revenue in this segment, but almost all of the vendors in the distributed ASQ market reported revenue growth in 2003.

TABLE 1

Worldwide Distributed Automated Software Quality Tools Revenue by Vendor, 2001–2003 ($M)

	2001	2002	2003	2003 Share (%)	2002–2003 Growth (%)
Mercury Interactive Corp.	306.0	320.6	366.3	55.6	14.3
IBM	166.1	137.1	148.2	22.5	8.1
Compuware Corp.	65.0	57.3	64.0	9.7	11.6
Segue Software	30.0	24.3	27.1	4.1	11.5
Empirix	24.2	19.5	20.6	3.1	5.7
Borland Software Corp.	–	4.2	5.5	0.8	31.2
RadView Software	7.8	5.4	4.8	0.7	-10.8
McCabe & Associates	2.2	2.0	2.4	0.4	20.3
Sanctum Inc.	–	–	0.5	0.1	NA
Subtotal	601.3	570.3	639.4	97.0	12.1
Other	19.9	19.6	19.6	3.0	0.1
Total	621.2	589.9	659.0	100.0	11.7

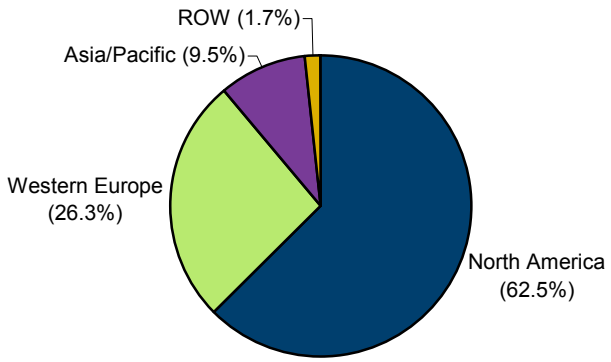
Source: IDC, July 2004

Performance by Geographic Region in 2003

Figure 1 shows North America continuing as the dominant consumer of distributed ASQ tools, with 62.5% of the worldwide revenue in this market segment. Western Europe was a distant second, with a 26.3% market share.

FIGURE 1

Worldwide Distributed Automated Software Quality Tools
Revenue Share by Region, 2003



Total = $659M

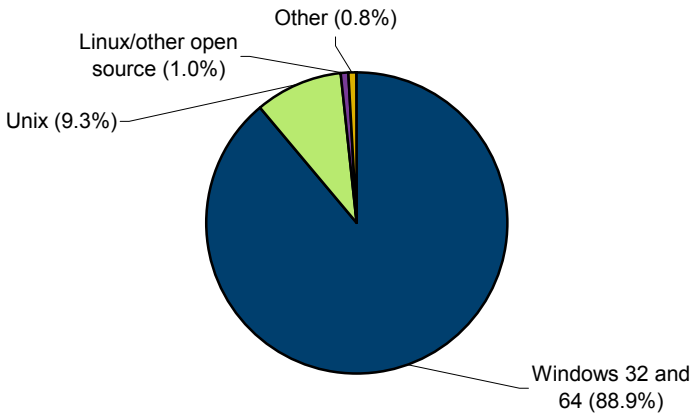
Source: IDC, July 2004

Performance by Operating Environment in 2003

The Windows operating environment clearly dominated the distributed ASQ space in 2003, with 88.9% of worldwide revenue attributed to that platform (see Figure 2). Unix, with a 9.3% share, trailed far behind Windows. No other operating environment accounted for more than 1% of worldwide distributed ASQ revenue.

FIGURE 2

Worldwide Distributed Automated Software Quality Tools
Revenue Share by Operating Environment, 2003



Total = $659M

Source: IDC, July 2004

FUTURE OUTLOOK

2003 marked the strong recovery of the overall ASQ market in general, and the distributed segment of the ASQ market in particular, reversing a two-year decline in overall ASQ revenue (in 2001–2002) and the first ever decline in distributed ASQ revenue (in 2002). As we predicted, the distributed segment of the ASQ market led this recovery.

IDC remains optimistic about the future of this market. The criticality of software to the business (and the visibility and impact of software failures), the increasing complexity of software applications and systems, and the relentless business pressures for quality, productivity, and faster time to market have all been positive drivers in the ASQ market in the past and will continue to be in the foreseeable future. The distributed segment of the ASQ market in particular will experience strong growth throughout the forecast period and account for an increasing percentage of the overall ASQ market. It is in the distributed segment where complexity (e.g., multitier environments and the move to Web services and services-oriented architectures) and demands for improved quality and productivity will be primarily felt. Therefore the market drivers for the distributed ASQ market are essentially those of the ASQ market in total.

Vendor Profiles

The leading vendors in the distributed ASQ market segment also are the leaders in the ASQ market overall. Mercury, IBM (with its Rational brand), Compuware, Empirix, and Segue were profiled in *Worldwide Automated Software Quality Tools 2003 Vendor Shares* (IDC #31712, August 2004). These profiles appear in the Appendix of this study.

Market Characteristics in the Future

As we pointed out last year, the distributed segment of the ASQ market is in actuality the ASQ market of the future. By 2008, more than 85% of worldwide ASQ market revenue will be attributable to the distributed segment. It is in the distributed ASQ sector where most innovations in software testing products and methodologies will surface. The shift to a services-oriented architecture will drive demand for new ASQ capabilities to assess and certify Web services and components. Closed-loop testing will help bridge the gap between development and production, making data from monitoring tools available to preproduction test and simulation. We can expect to see deeper integration in the future of monitoring and tuning tools with diagnostics and application development tools so that problems can be identified and resolved much more quickly. Predictive analysis — detecting and correcting problems before they become critical — will become a key technology for proactive quality assurance.

Forecast and Assumptions

Although the ASQ market is continuing to mature and consolidate, the market for automated software quality tools is still far from reaching its ultimate potential. Achieving high-quality software as measured in terms of reliability, security, performance, and scalability demands ever more advanced ASQ products and services. The key assumptions underlying the distributed ASQ forecast are presented in Table 2.

TABLE 2

Key Forecast Assumptions for the Worldwide Distributed Automated Software Quality Tools Market, 2004–2008

Market Force	IDC Assumption	Impact	Accelerator/ Inhibitor/ Neutral	Certainty of Assumption
Macroeconomics				
Economy	Worldwide economies will continue to recover from 2001 levels to traditional levels, which will be slightly below those in Consensus Economics' April 4 forecast. Pretax profits will be more than 10% in the United States.	**Moderate.** An improving economic climate will spur IT investment and drive growth throughout the forecast period. The ASQ market will continue the recovery it began in 2003.	↑	★★★★☆
Unemployment	Unemployment will slowly tail off but remain above 5% in the United States, and it will be flat in Europe. There will not be a lot of job creation in the United States.	**Moderate.** More employment will drive more need for IT infrastructure and is a lagging indicator of an economic recovery; job creation should be accompanied by a willingness to invest in other areas.	↑	★★★☆☆
Inflation	Inflation will remain under control. Consumer prices will rise by less than 2% in the United States, Western Europe, and Asia/Pacific over the next three years, but Eastern Europe and Latin America will continue to see double-digit inflation (according to Consensus Economics). There will be no deflation.	**Moderate.** Business confidence will be unaffected.	↔	★★★★☆
Energy	Oil prices are on the rise.	**High.** Oil prices are less predictable, which is not so good for business.	↓	★★★★☆
Geopolitics	The threat of terrorism at home and other potential armed political conflicts will neither escalate nor abate.	**Moderate.** Business decisions and project initiation will begin in line with a better economic outlook.	↔	★★★☆☆

TABLE 2

Key Forecast Assumptions for the Worldwide Distributed Automated Software Quality Tools Market, 2004–2008

Market Force	IDC Assumption	Impact	Accelerator/ Inhibitor/ Neutral	Certainty of Assumption
Market characteristics				
Buying sentiment	IT buyers will moderately increase spend as the economy improves. CIOs will begin to replace hardware and operating systems, spend on mobility, and regain the attitude that IT spending is critical to the well-being of a company. IT spending as a percentage of revenue (or income) will increase.	**Moderate.** This trend is already factored in.	↑	★★★★☆
Pricing pressure	Customers will continue to demand justification for software purchases in terms of ROI or reference accounts. There will be strong price pressure on large enterprise software renewals.	**Moderate.** Pricing pressures continue to push ALM vendors to offer trial or pilot projects at smaller initial deal sizes to reduce sales cycles and/or to innovate with packaged implementations. The trend toward term licensing continues in the ASQ market.	↓	★★★★☆
Software licensing	Attention to building predictable revenue streams through nontraditional software licensing models will increase.	**Moderate.** Short term, there will be less of an impact on overall software revenue. Toward the middle of the forecast period, the impact on software revenue will be higher.	↑	★★★★★
Technology/ service developments				
Software complexity	Software systems will continue to increase in complexity, while demand for higher quality and productivity will continue to grow.	**Moderate.** Improved testing tools and methods focused on such emerging technologies as Web services will be required to meet quality and productivity demands. Compliance and security could sharpen the focus on ASQ.	↑	★★★★☆

TABLE 2

Key Forecast Assumptions for the Worldwide Distributed Automated Software Quality Tools Market, 2004–2008

Market Force	IDC Assumption	Impact	Accelerator/ Inhibitor/ Neutral	Certainty of Assumption
Services-oriented architectures	Services-oriented architectures will allow companies to speed the development of modularized applications and respond faster to new business pressure.	**Moderate.** In the short term, existing systems will be rearchitected and new integration technologies will be deployed, which will improve business processes/automation. In the midterm, applications will begin to be replaced. Both strategies will create demand for ASQ tools.	↑	★★★★☆
Linux and open source	Technical IT users will lead with application deployment, with homegrown applications moving first. Mainstream software is also moving toward application serving on Linux.	**Low.** This could have a downward impact on pricing.	↔	★★★★☆

Legend: ★☆☆☆☆ very low, ★★☆☆☆ low, ★★★☆☆ moderate, ★★★★☆ high, ★★★★★ very high

Source: IDC, July 2004

The Distributed Automated Software Quality Tools Market Forecast, 2004—2008

Worldwide

As we predicted, the distributed ASQ segment led the rebound in the overall ASQ market in 2003. The recovery was even stronger than we had predicted. IDC remains optimistic for the future growth prospects of the distributed ASQ market and forecasts it to grow at a compound annual growth rate (CAGR) of 15.2% to $1.339 billion in 2008 (see Table 3).

TABLE 3

Worldwide Distributed Automated Software Quality Tools Revenue by Region and Operating Environment, 2003–2008 ($M)

	2003	2004	2005	2006	2007	2008	2003 Share (%)	2003–2008 CAGR (%)	2008 Share (%)
Geographic region									
North America	411.8	466.5	534.4	632.9	739.4	844.0	62.5	15.4	63.0
Western Europe	173.1	195.4	223.2	254.6	289.4	324.0	26.3	13.4	24.2
Asia/Pacific	62.8	72.1	85.9	104.5	125.5	150.6	9.5	19.1	11.2
ROW	11.2	12.7	14.4	16.2	18.4	20.4	1.7	12.8	1.5
Total	659.0	746.7	857.9	1,008.3	1,172.7	1,339.1	100.0	15.2	100.0
Operating environment									
OS/400	2.8	2.6	2.5	2.4	2.4	2.3	0.4	-3.8	0.2
Unix	61.6	60.1	57.2	55.5	52.4	49.0	9.3	-4.5	3.7
Linux/other open source	6.8	12.7	24.1	37.5	51.5	66.9	1.0	57.8	5.0
Other host/server	1.0	0.9	0.8	0.8	0.8	0.8	0.1	-2.5	0.1
Windows 32 and 64	585.6	670.6	773.4	912.1	1,065.6	1,220.0	88.9	15.8	91.1
Other single user	1.2	–	–	–	–	–	0.2	NA	–
Total	659.0	746.7	857.9	1,008.3	1,172.7	1,339.1	100.0	15.2	100.0
Growth (%)	NA	13.3	14.9	17.5	16.3	14.2			

Note: See Table 2 for key forecast assumptions.

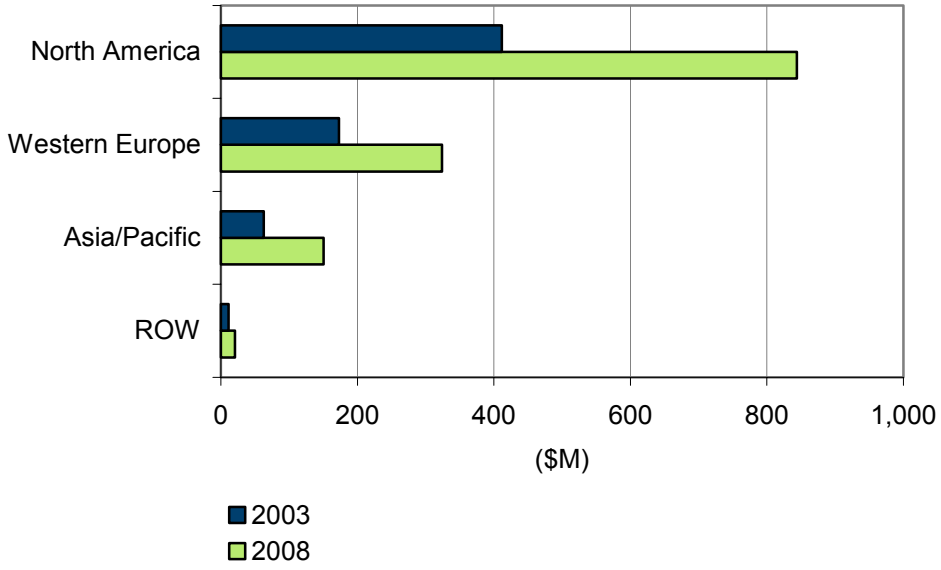
Source: IDC, July 2004

By Geographic Region

The revenue forecast for the distributed ASQ tools market segmented by geographic region is also displayed (refer back to Table 3); revenue for 2003 and 2008 is shown graphically in Figure 3. North America continues as the dominant consumer of distributed ASQ tools, maintaining a more than 60% share throughout the forecast period. Historically, the United States has been the early adopter of new ASQ tools and technologies, and IDC sees this pattern continuing for the foreseeable future. Underpenetrated emerging markets in Asia/Pacific, however, will grow at a faster rate (19.1% CAGR), albeit from a much smaller revenue base. The second-largest distributed ASQ consumer, Western Europe, will undergo a small share decline, from 26.3% in 2003 to 24.2% in 2008.

FIGURE 3

Worldwide Distributed Automated Software Quality Tools Revenue by Region, 2003 and 2008



Source: IDC, July 2004

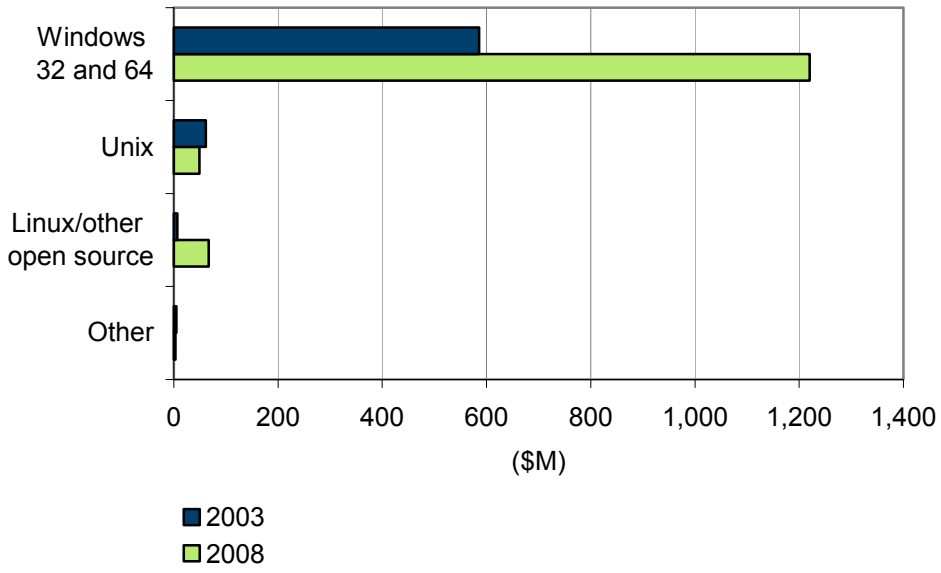
By Operating Environment

The revenue forecast for the distributed ASQ tools market segmented by operating environment is also displayed (refer back to Table 3); revenue for 2003 and 2008 is illustrated in Figure 4. The dominant market revenue leader, the 32- and 64-bit Windows operating environment (which accounted for an 88.9% share in 2003), is projected to continue to increase at a CAGR of 15.8% over the forecast period.

Revenue from distributed ASQ tools operating on Linux environments is forecast to increase significantly at a CAGR of 57.8% over the forecast period but will still only reach a 5% share by 2008. Unix revenue will decline slowly over the forecast period, with Linux being the primary beneficiary; however, Unix is projected to hold onto a market share lead over Linux throughout most of the forecast period. No other operating environment accounts for even a 1% share of the distributed ASQ market either now or by 2008.

FIGURE 4

Worldwide Distributed Automated Software Quality Tools Revenue by Operating Environment, 2003 and 2008



Source: IDC, July 2004

The Relationship of Distributed Automated Software Quality to the Total Automated Software Quality Market

The extent to which the distributed segment of the ASQ market is clearly driving the overall ASQ space is illustrated in Table 4. Distributed ASQ products accounted for a 63.6% share of total ASQ worldwide revenue in 2002 and 65.4% in 2003; that share will climb to 85.2% by 2008. Figure 5 graphically displays the increasingly dominant share that distributed ASQ tools will command over the forecast period.

TABLE 4

Worldwide Automated Software Quality Tools Revenue, 2001–2008 ($M)

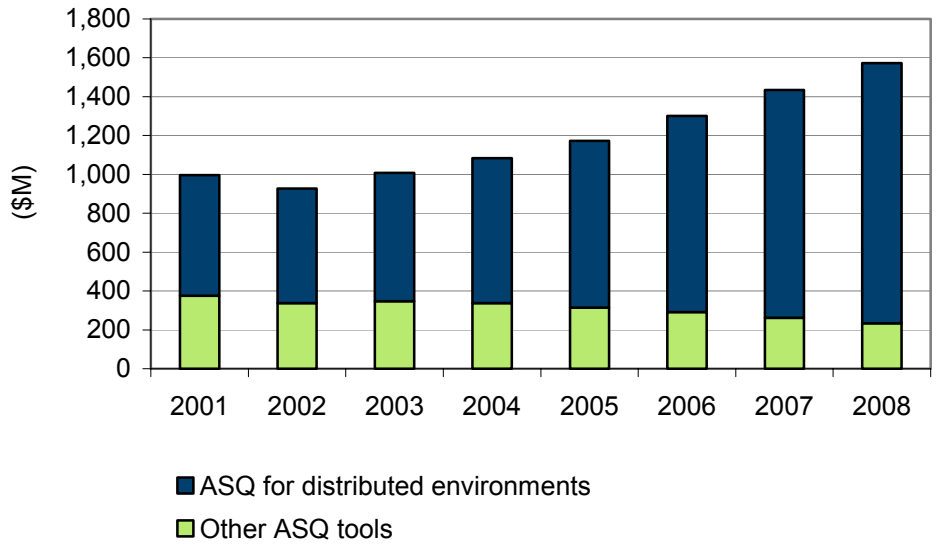
	2001	2002	2003	2004	2005	2006	2007	2008	2003–2008 CAGR (%)
ASQ for distributed environments	621.2	589.9	659.0	746.7	857.9	1,008.3	1,172.7	1,339.1	15.2
Growth (%)	NA	-5.0	11.7	13.3	14.9	17.5	16.3	14.2	
Share (%)	62.4	63.6	65.4	68.9	73.2	77.5	81.7	85.2	
Other ASQ tools	374.7	338.1	348.2	337.1	314.5	292.1	262.4	233.4	-7.7
Growth (%)	NA	-9.8	3.0	-3.2	-6.7	-7.1	-10.2	-11.1	
Share (%)	37.6	36.4	34.6	31.1	26.8	22.5	18.3	14.8	
Total	995.9	928.0	1,007.2	1,083.9	1,172.4	1,300.4	1,435.1	1,572.5	9.3
Growth (%)	NA	-6.8	8.5	7.6	8.2	10.9	10.4	9.6	

Note: See Table 2 for key forecast assumptions.

Source: IDC, July 2004

FIGURE 5

Worldwide Automated Software Quality Tools Revenue, 2001–2008



Source: IDC, July 2004

ESSENTIAL GUIDANCE

The distributed segment of the ASQ market clearly represents the future of the ASQ marketplace as a whole. The complexity and business-criticality of software, further intensified by regulatory compliance pressures and the rise of distributed development teams (including outsourcing and offshoring), will continue to drive the need for automation in the software test life cycle. Emerging application development technologies and methodologies (including Web services initiatives and the move to services-oriented architectures) will fuel demand for improved levels of software quality and greater development team productivity.

There is ample room for unique technological and business model innovations from full-service and niche ASQ providers alike that can best meet these demands. A broad array of test tools is required to serve the diverse test needs of the participants in the life cycle, including developers, QA professionals and (nontechnical) business users, and the production support team. Vendors that are first to market with solutions for these constituencies will enjoy the greatest success. Smaller players will find success through partnerships with the larger vendors, where they can augment existing solutions, or by establishing new niches that they can dominate.

LEARN MORE

Related Research

- *Worldwide Application Life-Cycle Management Tools 2004–2008 Forecast Update and 2003 Vendor Shares* (forthcoming)
- *Worldwide Automated Software Quality Tools 2003 Vendor Shares* (IDC #31712, August 2004)
- *Worldwide Automated Software Quality Tools 2004–2008 Forecast Update: July 2004* (IDC #31577, July 2004)
- *Worldwide Automated Software Quality Tools 2004–2008 Forecast: March 2004 Forecast* (IDC #31072, April 2004)
- *Worldwide Application Life-Cycle Management 2004–2008 Forecast: March 2004 Forecast* (IDC #31060, March 2004)
- *Mercury Interactive Crosses the Half-Billion Mark: What's Next?* (IDC #30875, February 2004)
- *IDC's Software Taxonomy, 2004* (IDC #30838, February 2004)
- *Worldwide Application Life-Cycle Management Forecast and Analysis Summary, 2003–2007* (IDC #29841, July 2003)

- *Worldwide Distributed Automated Software Quality Tools Forecast and Analysis, 2003–2007* (IDC #29739, July 2003)

- *Worldwide Automated Software Quality Tools Competitive Analysis, 2003: 2002 Shares and Current Outlook* (IDC #29585, June 2003)

Methodology

The IDC Software Research Group (SRG) market sizing and forecasts are presented in terms of "packaged software revenue." Packaged software is defined as programs or codesets of any type commercially available through sale, lease, or rental, or as a service. Packaged software revenue typically includes fees for initial and continued right-to-use packaged software licenses. These fees may include, as part of the license contract, access to product support and/or other services that are inseparable from the right-to-use license fee structure, or this support may be priced separately as software maintenance. Upgrades may be included in the continuing right of use or may be priced separately.

Packaged software revenue *excludes* service revenue derived from training, consulting, and system integration that is separate (or unbundled) from the right-to-use license but *includes* the implicit value of software included in a service that offers software functionality by a different pricing scheme (e.g., the implicit or stated value of software included in an application service provider's [ASP's] or other hosted software arrangement). It is the total packaged software revenue that is further allocated to markets, geographic areas, and operating environments.

IDC's industry analysts have been measuring and forecasting IT markets for more than 30 years. IDC's software industry analysts have been delivering analysis and prognostications for packaged software markets for more than 25 years.

The market forecast and analysis methodology incorporates information from five different but interrelated sources, as follows:

- **Reported and observed trends and financial activity.** This study incorporates reported and observed trends and financial activity in 2003 as of the end of April 2004, including reported revenue data for public companies trading on North American stock exchanges (CY 1Q03–4Q03 in nearly all cases).

- **IDC's *Software Census* interviews.** IDC interviews all significant market participants to determine product revenue, revenue demographics, pricing, and other relevant information.

- **Product briefings, press releases, and other publicly available information.** IDC's software analysts around the world meet with hundreds of software vendors each year. These briefings provide an opportunity to review current and future business and product strategies, revenue, shipments, customer bases, target markets, and other key product and competitive information.

- **Vendor financial statements and related filings.** Although many software vendors are privately held and choose to limit financial disclosures, information from publicly held companies provides a significant benchmark for assessing informal market estimates from private companies. IDC also builds detailed

information related to private companies through in-depth analyst relationships and maintains an extensive library of financial and corporate information focused on the IT industry. We further maintain detailed revenue by product area models on more than 1,000 worldwide vendors.

- **IDC demand-side research.** This includes thousands of interviews with business users of software solutions annually and provides a powerful fifth perspective for assessing competitive performance and market dynamics. IDC's user strategy databases offer a compelling and consistent time-series view of industry trends and developments. Direct conversations with technology buyers provide an invaluable complement to the broader survey-based results.

Ultimately, the data presented in this study represents IDC's best estimates based on the above data sources as well as reported and observed activity by vendors and further modeling of data that we believe to be true to fill in any information gaps.

Appendix: Vendor Profiles

Note: The following text is reprinted from *Worldwide Automated Software Quality Tools 2003 Vendor Shares* (IDC #31712, August 2004).

Mercury

Mercury Interactive continues to dominate the ASQ market, posting another year of double-digit revenue growth in 2003 and growing its market revenue share. Although Mercury's new initiatives over the past few years have focused on securing market revenue share in the application management space and establishing a beachhead in the IT governance arena, Mercury's strong showing in 2003 attests to the momentum the company has built with its core application delivery business around its functional and load test tools and its test management platform.

Mercury continues to demonstrate the ability to anticipate customer needs in the ASQ space and be among the first to fulfill them. During the 15 years since its founding in 1989 as a Unix test tools vendor, the company has jumped quickly onto every new technology wave, including GUI testing, client/server, testing tools for ERP packages, and hosted testing and monitoring services. Mercury has also innovated in its business model: In addition to traditional perpetual software licenses, Mercury offers a subscription model. Subscription licenses now make up a growing and substantial portion of the company's overall ASQ orders. This means that revenue that would have been recognized "up front" under a conventional perpetual license is now recognized over the term of the subscription, typically 24 months. In 2002, when the subscription model was introduced, this resulted in lower recognized license revenue for Mercury. However, IDC believes that the subscription model is already working to Mercury's advantage as the accrued deferred revenue is recognized ratably over the life of the contract, beginning in 2003 and subsequent years. Its subscription model is a valuable financial management tool and a potentially competitive weapon should other vendors be forced to adopt a similar approach to compete with Mercury (thus initially reducing their recognized revenue as the new model is introduced).

Mercury's BTO message is resonating well in the marketplace. Its challenge will be to maintain its strong growth in its core ASQ business as it grows market revenue share in its application management and IT governance businesses. The company has shown the ability to capture new markets in the past, and IDC believes Mercury is well positioned to continue its strong growth in the future.

IBM

With its acquisition of Rational Software in 2003, IBM became a leader in the ASQ market, second only to Mercury. The Rational acquisition also made IBM the worldwide revenue leader in the software configuration management tools market, which Rational has dominated for the past several years, and the leader in analysis, modeling, and design tools. Rational offered an extremely well established and complementary product set to IBM's, with very little, if any, overlap. IBM now has all of the components required to span the full application life cycle.

Although acquisitions on this scale can be challenging under the best of conditions, IBM moved quickly to assimilate the Rational organization, "rationalize" its new and expanded product line, and incorporate the Rational products into its selling, marketing, and services operations. The Rational products have gained a vast, worldwide channel, given IBM's huge enterprise sales and Global Services organizations. Its very strong 2003 results lay the foundation for its continued growth in the ASQ market.

IBM articulated its full application life-cycle strategy earlier this year, leveraging its Rational products together with its powerful WebSphere brand. More recently, IBM announced its new strategy for its ASQ offerings, focusing on quality throughout the development and deployment life cycle. As one of the few vendors offering ASQ tools for all of the phases of the test process — including developer testing, functional testing, and performance and tuning — IBM is well positioned here. The Eclipse-based Hyades initiative, which aims to provide an open integration framework for multivendor test tools, will serve as the foundation for all of IBM's ASQ offerings. By leveraging the Hyades data model, IBM's tools (as well as tools from other ASQ vendors) will be able to share performance and other test information to support the full range of test activities (and roles) in the life cycle. This also offers potential for synergy between IBM's SQ tools and its monitoring, systems management and development tools to enable closed-loop testing and root-cause analysis for speedier problem resolution.

Compuware

Compuware is another large and diversified software vendor that offers solutions for system and network management and software development in addition to providing ASQ tools for the full-spectrum software testing activities. DevPartner, which supports both .NET and Java developers, provides a suite of developer test tools spanning static analysis, runtime and performance analysis. QACenter supports functional and load testing as well as test management.

The company has a strong mainframe background and still derives the majority of its revenue from products on that platform (a significant percentage of its ASQ tools revenue is also mainframe based). However, Compuware offers a number of test tools for distributed environments to developers and QA teams as well as specialized tools for the testing of Windows drivers.

In 2003, Compuware launched its Compuware Application Reliability Solution (CARS) initiative to bring its products, process expertise, and extensive services organization together in a solutions offering that addresses the overall needs of large enterprises to improve software quality. The company reports that this initiative is gaining traction, spurred in part by the growth of outsourcing and offshoring: Organizations must define and measure the quality of the software their partners deliver in order to manage down the overall risks of outsourced development.

Empirix

Empirix sells Web load and functional test tools as well as monitoring tools. The company has carved out a unique niche by providing similar tools for the contact center environment. Empirix's tools allow retailers, financial services companies and others that provide both Web-based and call center–based ordering and customer service interfaces to ensure the quality of overall customer interactions. Empirix also sells specialized voice over IP (VoIP) test tools. Empirix's revenue declined significantly in 2002 but the company appears to have begun its recovery from the 2001–2002 software market doldrums.

Segue

Segue reported a very strong upturn in its business in 2003. This is something of a reversal of fortune for Segue, which experienced a sharp decline in its revenue in 2002. Segue has long been recognized for its excellent technology, and under its new management team, the company appears poised for renewed growth.

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