

The Borland® Quality Maturity Curve™

Borland Software Corporation is a market-leading independent software tools vendor. Our business is based on providing customers with effective solutions to their software development and testing problems. This paper describes our Quality Maturity Curve concept, which we believe will enhance the way software delivery organizations go about improving the quality of their development processes and delivered products.

Executive summary

Vice Presidents and Senior Directors of Engineering and Quality Assurance in organizations that deliver software are facing some key challenges:

- they are under increasing pressure to reduce costs and improve efficiency
- they are spending too much on development and testing tools, with limited return on investment
- resources are not being shared between development teams

Yet, they still have to guarantee that the quality of the software they produce will deliver customer satisfaction and business value.

These senior managers must improve quality and reduce the costs of testing, but they know that making major investments in tools without processes and frameworks isn't working. Lacking both time and budget to make holistic, disruptive changes, they seek instead to improve quality in incremental steps that deliver incremental business value. They are looking for practical guidance – not million dollar solutions with complex delivery.

Borland is the only vendor with integrated tools and process, and a “whole of lifecycle” approach to quality. The recommendations we make are specific to the software delivery organization's current level of quality maturity, comprising a set of manageable, achievable and affordable steps to improvement.

What's different about Borland's approach?

The concept of determining an organization's current quality maturity level and then recommending ways to improve it is a fairly straightforward one. Many service companies promise to provide something similar. The major difference with our approach is that we specify from an independent standpoint precisely what each organization needs to do to be complete at each level of maturity, and then how they can move on to the next level if they wish to at a practical pace.

Why should I read this document?

As an executive or manager you are measured on your ability to reduce risk and drive value by continuously improving your teams' ability to deliver higher quality projects with what may seem to be an ever-shrinking pool of financial and human resources.

In the rest of this paper you can learn more about our Quality Maturity Curve concept and why it is much more likely to bring true benefits for you. By reading on you will discover how your software delivery organization can make real, incremental and permanent gains in efficiency and effectiveness, while greatly improving the quality of its delivered software.

Contact Borland today for your free-of-charge two hour Quality Maturity Curve Profile.

What is the Quality Maturity Curve?

Derived from our extensive experience of supplying testing tools and services to software development organizations, the Borland Quality Maturity Curve provides a step-by-step approach to improving software quality in a cost-effective manner. It has five stages:

Traditional Testing: reactive and “ad hoc”, with very few formal test processes and unpredictable outcomes. Manual testing prevails and Quality Assurance (QA) teams are small, with minimal budgets for tools.

Test Automation: testing is managed, with some automated procedures. Tests are repeatable and predictable, and both regression and load/performance testing are routinely performed. However, there is little focus on process, and any improvement initiatives are on a task-by-task basis.

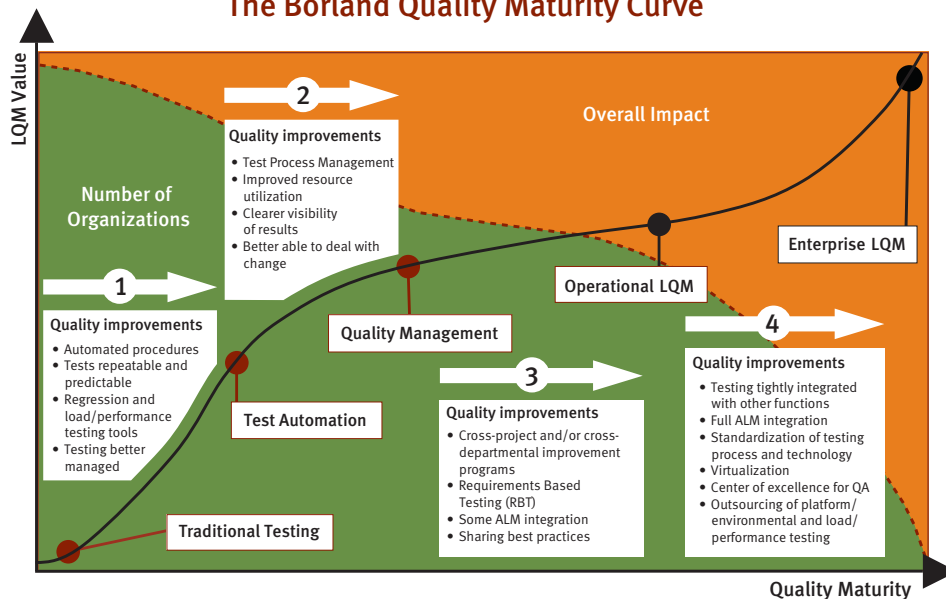
Quality Management: Test Process Management is utilized to drive improved testing efficiency. The testing process is better controlled, with clearer visibility of results. The QA function has a project or team focus, and is able to respond effectively to change. Often there is a drive to consolidate test tools, and to achieve a targeted return on investment (ROI) on any new tool purchase.

Operational LQM: the principles of Lifecycle Quality Management are applied to cross-project and/or cross-departmental improvement programs. There is executive level commitment to upstream quality, plus cross-organizational initiatives, such as Requirements Based Testing (RBT), to ensure that testing is supporting business objectives. At this stage of the evolution path there is some level of integration with Application Lifecycle Management (ALM). Processes are in place to facilitate the sharing of best practices across geographically distributed teams. The organization will have implemented a form of process re-engineering to make software development and testing more effective.

Enterprise LQM: testing is tightly integrated with other lifecycle functions. There is full integration with ALM, and a systemic approach to cost and risk reduction. CIO/CxO-driven programs implement further and continuous improvement through initiatives such as:

- standardization of testing process and technology
- the use of virtualization techniques for resource sharing
- the establishment of a center of excellence for QA to provide quality services to other parts of the organization, including system, integration, regression, platform/environmental and load/performance testing

The Borland Quality Maturity Curve



The Quality Maturity Curve provides a means to identify the most critical steps to improving quality by making process and automation choices that deliver the most appropriate and impactful benefits according to a careful analysis of an organization's unique needs

The need for change

The pressures on software delivery organizations are rising. Increasingly the world of commerce and public bodies rely on software to conduct their day-to-day activities. The Internet and the global marketplace have combined to produce a 24 hours a day, 365 days a year expectation of service. Consumers are quick to complain or change their allegiance if software lets them down.

VPs and managers know that their organizations must produce higher quality software faster, and at lower cost, which means development and testing have to become more productive and efficient. However, what has been lacking until now is a service that can provide clear guidance to management as to what needs to be done.

A template for quality improvement

Borland's Quality Maturity Curve provides organizations with a structure and process for improving software quality that reflects the tougher business challenges faced in today's business environment. It is derived from our long and wide-ranging experience improving the efficiency and effectiveness of software development and testing processes, including our own. We have gathered experience from our customer-facing Capability Maturity Model Integration (CMMI) experts, hundreds of person-years delivering world-class quality and development products, innumerable customer engagements, and from our own journey along the maturity curve, iterating and implementing best practices in software quality as a commercial software vendor.

The key differentiators of our approach are:

- we identify the steps to progress in software quality, adapting the process to each customer's current environment and future needs
- we produce a valuable, actionable plan based on the customer's goals and organizational readiness
- we support the steps in the plan with best practice and our own toolset, ensuring completeness at each level of quality maturity

Borland's services

Borland has devised a comprehensive set of services to:

- identify where customers are currently positioned on the Quality Maturity Curve
- prescribe what needs to be done to ensure that the software delivery organization is complete at this level
- discuss with senior management and advise on the applicability of moving up the curve to a higher level of quality maturity
- work with customers to develop the business case for making the changes, showing a clear return on investment (ROI)
- provide consultancy, assistance and tools to help our customers reach the quality level they want to achieve, and within their target timescales

Main customer benefits

As you move along the Quality Maturity Curve the accrued benefits multiply. Initially focusing at the individual project level, Test Automation reduces the risk of obvious defects. Quality Management delivers team improvements, reducing the cost and time of testing and enabling each team to be more efficient and effective.

Operational LQM has an organizational focus. Moving to this quality level brings cross-project value in matching projects to your business needs and eliminating duplication and redundancy. It also delivers consistent project quality, predictable time-to-market and reduced testing costs across the entire organization.

Enterprise LQM enables global economization. By centralizing skills and sharing workload across all your software delivery teams, you can maximize the opportunity for cost reduction and efficiency improvements. After implementing a centralized testing Center of Excellence within its own testing organization, Borland realized savings of over \$200,000 on testing one single product.

“There is no magic formula for jumping to the excellence of the Enterprise LQM level of quality maturity. But those companies and organizations that plan their way forward in a series of manageable steps will have much better control over the eventual outcome.”

**Consulting manager,
Borland**

How should we implement this change?

As we have learned from many customer projects and from the experience of our own software development organization, the benefits of implementing change according to Quality Maturity Curve principles can be dramatic and long-lasting. To help you manage the change and gain the most from your investment, we recommend you use the Borland Accelerate framework to lead you to a correct decision for your organization. Briefly, the structure is as follows:

- Define your goals
- Architect the approach
- Develop and deploy the solution
- Validate the results

Defining your goals

The first and most crucial step is to carry out a Lifecycle Quality Management (LQM) assessment to determine your current testing capability, identify the target capability level you want to achieve and gain stakeholder agreement on the objectives for the overall program.

Borland can provide this service, and we strongly recommend that you commission us to carry out this assessment before you make any firm commitment to change.

Planning the program

Once you have mapped out where you want to get to, and by when, we can help you plan the implementation, devise the solution and roll it out across your organization. After completion of each major part of the program we carry out a repeat LQM assessment to determine your organization's new level of capability, so that you can keep track of progress and verify that the required improvements have been made.

What if I'm still not convinced?

We know that many vendors promise rewards and benefits that just don't materialize, so we have arranged a zero cost, two hour review of your current situation that should convince you of the validity of the Quality Maturity Curve approach. To organize your free-of-charge Profile, please get in touch with your Borland account manager or our head office (details below).

Time to act

With so much pressure on software delivery organizations to be more efficient and cost-effective, while raising the quality of delivered software, you have everything to gain and nothing to lose. The Quality Maturity Curve offers you a way to address this enormous challenge in a controlled and manageable way. It's easy to get started. Just pick up the phone or visit our web page.

**The Quality Maturity Curve delivers real, measurable benefits.
Call us now to arrange your free-of-charge Profile.**

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