
A central bottleneck of software development

Solution: **TDM**

UBS Hainer optimizes strategic levers and relieves project teams

The world is in the midst of the digital revolution. Business models are increasingly based on software applications. IT is becoming a key technology. As a result, the speed of development is becoming a decisive factor for a company's success. In this context, there is an area of strategic relevance that is often underestimated: Optimized test data management (TDM) can directly increase the performance of application development. The procurement of test data can become a bottleneck or success factor for the entire software development. Companies need to ask themselves, "Can we afford to forego optimization in this area? "

The initial situation

For some time now, the economy has been undergoing a digital transformation - which is far from complete. The value creation of many companies is increasingly based on digital - i.e. software-driven - business models. This means that product promises and customer benefits depend to a large extent on smoothly functioning and user-friendly software.

The market power of innovative companies with disruptive digital business models can be well demonstrated by countless examples. Apart from that, it is hard to imagine how even traditionally grown, large companies can survive today without digitizing their processes.

Today, IT plays a central role in the market success of a company.

This means that IT already plays a central role in the market success of a company today - depending on the industry and product portfolio. It is the key technology for advancing digitization and will thus be increasingly linked to product development and marketing. This trend will continue, as countless areas will still need to be digitized in the future.

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Demands on IT

This creates special challenges for IT. Due to the high dynamics of development, a software application can no longer be considered "finished". Rather, it is in a state of continuous development. Software - especially if it is an important part of value creation - must be continuously adapted to changing factors in order to maintain or improve the company's competitiveness.

More and more frequently, adaptations have to be made due to external changes, such as market developments, changes in consumer habits, social and legal developments, actions/attacks by competitors, technical innovations, reaction to current events, etc.

No fault tolerance

Despite the increased demands on the quality and quantity of the applications as well as an increasing complexity - e.g. in the context of legal requirements (GDPR) or different systems and platforms - the newly developed modules must function without any cutbacks when they go-live. Otherwise, the costs incurred and the loss of image for the company would be too great.

Externally: A perfectly functioning application is taken for granted by the (end) customer. If this is not guaranteed, it quickly leads to a loss of trust and uncertainty regarding the provider.

Internally: An application can also be a central component of a strategic project and, in the case of faulty development or delayed delivery, become a bottleneck factor for the entire development of the company.

Current and future challenge

In other words, more and more needs to be programmed, faster and faster, and this with resources that tend to become scarcer - because finding suitable programmers is becoming more and more difficult due to the ever-increasing demand. Competition is fierce.

**Despite increased complexity, more and more
must be programmed faster and faster.**

Therefore, software development today should always be viewed as a "work in progress". And thus, the focus is on optimizing the associated processes. The constantly repeating action cycle of iterative software development consists of continuous integration, continuous delivery, continuous testing, and continuous deployment.

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The optimization of these synergistically interlocking development factors ultimately determines the possible quality and speed of the adaptation process and thus the competitiveness of a software-driven company. What approaches are there for optimization?

It is well known that the overall performance of a system is determined by the weakest link. A limiting factor - no matter how small - can have an impact on system's performance and become a factor that blocks any further progress. If, on the other hand, it is optimized, the performance of the overall system benefits significantly and directly.

The question that is interesting from a strategic standpoint is: Where in this process is the most effective point at which a major improvement can be achieved with a relatively small investment of resources? Is there a strategically relevant lever that is often overlooked, neglected or repeatedly postponed, but which has a direct impact on the performance of IT development?

UBS Hainer - Strategic approach to solutions with high leverage effect

A strategic lever of this kind, which has a particular impact on development speed, is test data management (TDM). Even though capable developers sometimes program under time pressure and achieve high-quality results, there is always a point where - unnecessarily - delays occur that slow down the overall process considerably. This costs time, nerves and ties up valuable resources.

Every application that accesses customer or system data must be tested again and again during development to ensure its functionality (continuous testing). A positive test result gives the "go" for further programming. If testing does not take place or is unnecessarily delayed, programming progress is put on hold for the time being. Without successful testing, everything comes to a standstill.

In practice, the procurement of suitable test data is always a bottleneck factor.

In practice, however, it happens time and again that the procurement of suitable test data becomes a bottleneck factor. In many companies, the required data is still collected manually or people work with in-house solutions that sooner or later reach their limits. What is missing in all these cases is systematic test data management (TDM).

UBS Hainer, based in Lauterbach, Germany, specializes in optimizing test data management. The experts at UBS Hainer offer everything from a single source, from needs analysis, test strategy and the implementation of customized test runs at the customer's site (proof of concept) to the implementation of the TDM software.

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Optimizing test data management

Our goal is to fundamentally and sustainably solve the bottleneck of test data management – if necessary, up to and including support in setting up a TDM infrastructure. This turns an often annoying problem into an asset that demonstrably saves both time and costs. UBS Hainer's flagship product XDM automates the entire process of test data acquisition. In doing so, XDM can be optimally adapted to the specific environment and requirements of our clients, bringing together test data from a combination of different platforms (mainframe, server network, data center ...) and database management systems (DB2, IMS, VSAM, Oracle, PostgreSQL ...).

Ultimately, the test strategy determines which test data is required. Setup and structures of the test data are defined centrally for all projects by the test data manager and can be changed as required at any time. The testers and developers - regardless of whether they are dealing with 5 or 500 users - do not need to worry about anything and receive their data at the push of a button from a comprehensible and intuitive data shop interface with individual order forms. This means that the required data is available to each individual tester directly and tailored to the quality of real production data whenever it's needed.

Automated test data procurement relieves the burden on specialist departments and project teams.

XDM significantly supports high-quality quality assurance and majorly contributes to getting new releases into production more quickly. This brings the greatest possible independence for each individual developer because an optimal data structure is created for each field of application, from acceptance testing, through integration testing or unit testing, to regression testing. With a function for finding and anonymizing data worthy of protection across all systems, the requirements of data privacy laws can also be fulfilled and documented.

Our customer references include leading banks and insurance companies, as well as large industrial customers - such as several German automotive companies - and multinational companies. They all have particularly high security requirements for their operational software and are constantly developing it further with their own development department. In total, UBS Hainer has successfully implemented over 80 projects worldwide in recent years.

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Starting a benefit spiral

By automating test data procurement, a benefit spiral can be set in motion: Test data at the push of a button, no delays in development, no idle resources due to waiting times or time-consuming data acquisition, higher quality of test data. higher test quality through real live data, higher security through demonstrable compliance with data privacy laws, faster delivery of the application, lower error rate, faster adaptation speed of the modules, better motivation and less frustration among the developers, reduced workload for specialist departments and project teams, faster availability for users, faster response to external influences, faster market adaptation cycles, optimized development speed, competitive advantage over slower competitors, concentration of energy on improving other areas.

A small but strategically important lever relieves the project teams and can even bring immediate competitive advantages. If the test data management is not yet optimized, much benefit can be gained here with relatively low costs. If speed and quality in application development become strategic factors, then test data procurement should definitely be automated. The TDM experts at UBS Hainer are the people to contact for professional support for test data optimization.

Step by step to optimized test data management

An important building block for optimizing development speed is therefore the introduction of automated test data procurement. UBS Hainer's system can be managed by the company itself and can be continually adapted to current projects and changes. This gives the company maximum independence and freedom.

Test data management brings a high practical and strategic benefit at manageable costs.

UBS Hainer has developed a step-by-step approach to introduce or change an existing system in risk-free steps. In this way, an interested company can convince itself of the advantages of the system in small steps or, if necessary, also opt out at any time.

Step 1 - An introductory webinar is aimed at decision-makers. It shows how automated test data procurement works and the strategic advantages it brings. Another webinar - for the IT implementers - describes the technical details of the problem solution and the features of XDM.

Step 2 - Now comes an on-site quick check. This individual inventory is conducted in one day. It provides clarity on the initial situation, specific requirements, infrastructure, bottlenecks and opportunities. A report summarizes the options and proposals.

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Step 3 - In the next step, a concrete test strategy is developed for a clearly defined area. The target criteria are analyzed, and the most important key factors are identified. This is then already the basis for the introduction or optimization of test data management.

Step 4 - With this preliminary work, a test operation can now be started without any problems. With a proof-of-concept application (POC), the customer experiences in live operation what TDM brings to daily practice. In this way, a functional scenario is implemented at the customer's site as an example. This is then used to evaluate the merits of XDM.

Step 5 - If the customer decides to purchase XDM, an implementation concept is created that includes the implementation and the individual customization. Implementation takes place successively during ongoing operations, either in a sub-area or for the entire application development.

Step 6 - After implementation, support, and training of the test team, support with the infrastructure if necessary, and training of a test data manager are carried out as required. The latter can then constructively fill the role as "Head of TDM" or, in the case of agile teams, as "Product Owner TDM".

Summary and conclusion

In times of digital transformation and the associated continuous software development, automated test data procurement becomes an important strategic position. Its optimization can relieve the departments involved and significantly increase the performance of the entire application development. Increased development and adaptation speed can result in competitive advantages for the entire company. As an expert in optimizing test data management (TDM), UBS Hainer offers a holistic solution for automated test data procurement with its XDM software.

UBS Hainer offers a holistic solution
for automated test data procurement.

Using a combination of different platforms and database management systems, XDM provides every developer with the individually required test data - in the quality of real production data - at the push of a button. The data structure can be flexibly adapted to the current projects in the customer's company. All requirements for data security, as well as for internal company security, can be always guaranteed. Thus, XDM provides the highest possible independence and freedom in test data procurement.

UBS Hainer has already successfully implemented over 80 projects worldwide - including numerous well-known reference customers from the financial, industrial, and retail sectors. To enable a risk-free entry into automated test data management, UBS Hainer has developed a simple and comprehensible methodology that can turn an annoying bottleneck into a valuable success factor - through the sustainable optimization of test data management.

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