



Business Case

For the introduction of an
Application Lifecycle Management solution

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Executive Summary

Software application development, including the implementation and maintenance hereof, involves many complex processes combining a series of roles, tools and deliverables. Streamlining these processes demands a major effort.

An increasing issue is also the interdependence of software development and IT operations, these processes need to be efficient, predictable, secure and maintainable.

ALM offering

A good ALM solution is an integrated set of tools for requirements management, versioning, Build, Deploy to test and Production environments, Lifecycle and Approval Management but, more importantly, it is conform to relevant process standards and governance rules.

Modern ALM solutions are:

- **Methodology independent:** It does not matter whether you use a linear (waterfall) or iterative (Agile) approach for your development process.
- **Tool independent:** Organizations/departments can continue using their preferred tools in each stage of the process
- **Repository neutral:** Cross-platform development is perfectly feasible

These elements have an enormous impact on the overall efficiency and costs of your application development process.

DevOps offering

An increasing issue is the interdependence of software development and IT operations, these processes need to be efficient, predictable, secure and maintainable. DevOps must be part of a good ALM solution and is addressing this challenge.

It stresses the importance of communication, collaboration and integration between software developers and people responsible for operations and production. DevOps is an answer to the interdependence of software development and IT operations.

Recommendation

Development teams will benefit from an ALM implementation, it will allow the teams to work more efficiently, with less human mistakes, thanks to the automated build and deploy phases. Implementation of the versioning system increases communication and efficiency between developers.

Further in this document you can find collected ALM industry expert quotes, these experts indicate improvements in the productivity of stakeholders due to the implementation of an ALM solution and they indicate how much time developers save due to the implementation of ALM.

The document also provides a list with the benefits of an ALM solution per production phase (requirements, versioning, build and deploy).

Justification

Cost savings are:

- Reduced application development, testing and deployment costs
- Better risk management
- Improved application quality
- Improved performance
- Reduced time-to-market
- Reduced time and resources to deploy multiple-environment applications

The ROI calculation gives a clear indication of how much time and money will be saved due to the implementation of an appropriate ALM solution.

The ROI tool is available online at www.redbridge-software.com which is based on literature that can be found in the expert opinions chapter.

Which organizations can benefit from the implementation of ALM?

Any organization can benefit from ALM. ALM doesn't only enforce your processes, but it also makes sure that the process is repeatable, reliable and documented. It will free your key people of repeating, less interesting tasks. It doesn't matter if the team is small or large team: both can benefit. Of course the larger the team, the greater the benefits

Problem Definition

Problem Statement

Development teams lose too much time with the build and deploy phase, too many avoidable mistakes are being made and too much efforts are necessary to communicate properly. Testers lose too much time setting up test environments and as such do not have enough time to test the application in a proper way. Operations people don't receive all needed info or components are missing. Automated build and deploy procedures will take away many of these burdens.

Organizational Impact

The positive outcome of an ALM solution on an organization is rather impressive.

Gartner mentions 3 principal values that can be expected from adopting ALM:

1. Enhance management transparency & visibility,
2. Effective execution of challenging processes,
3. Better results for the business.

The possible benefits fall down in two categories: tangible and non-tangible benefits.

Tangible benefits with direct financial impact:

- Improved cost and budget management ability
- Reduced time spent to deploy applications in production

Intangible benefits (other high impact implications)

- Improvement in release consistency and quality
- Better service to customers
- Timeline improvement of application releases
- Less human mistakes
- Ability to control the development process at any moment
- Maximization of stakeholder satisfaction
- Optimization of collaboration between teams
- Creation of an agile IT environment

Process benefits

An integrated ALM solution brings a bunch of advantages; every stakeholder will experience significant time and money savings. Four Important elements are identified: requirements, versioning, build and deploy.

The requirement phase can mainly be linked to the business analysts, the versioning benefits are significant for developers, IT managers and the communication and collaboration through the team, the build benefits are mainly for the release managers and the deploy benefits are mainly applicable for the deployment engineers.

These following 4 tables can be used to quickly check how your organization would benefit from an ALM solution.

Please fill in the survey below to determine whether your organization needs the benefits of ALM.

Requirements - ALM benefits	(1 = No, 5 = Yes)
Stakeholders need to better interpret the requirements	1 2 3 4 5
Using more visibility and traceability between requirements, tasks and related code	1 2 3 4 5
Having associated client and business collateral with each requirement, including emails, documents and graphics and other related information	1 2 3 4 5
Tracking project status in real time	1 2 3 4 5
Less communication and coordination efforts are necessary between people	1 2 3 4 5
Accommodating real business needs	1 2 3 4 5

Version Control - ALM benefits	(1 = No, 5 = Yes)
Using one method for the entire team, so that everybody operates under the same 'ground rules'	1 2 3 4 5
Increasing traceability and accountability	1 2 3 4 5
Simplifying the way to find the right person to solve problems in the materials maintained	1 2 3 4 5
Having an easily and quickly accessible list of exact changes made	1 2 3 4 5
Advising the users of the information on how it has changed from version to version	1 2 3 4 5
There is much time wasted on old codes	1 2 3 4 5
Increasing team collaboration and communication	1 2 3 4 5
Going back to earlier versions	1 2 3 4 5
Delivering more revisions, updates and cross-platform versions thanks to more efficiency	1 2 3 4 5

Automated build - ALM benefits	(1 = No, 5 = Yes)
Improving product quality	1 2 3 4 5
Minimizing the number of 'bad builds'	1 2 3 4 5
Acceleration in compile and link processing	1 2 3 4 5
Eliminating redundant tasks	1 2 3 4 5
Decreasing dependencies on key personnel	1 2 3 4 5
Saving the history of builds and releases in order to investigate and update issues	1 2 3 4 5
Lowering quality risk	1 2 3 4 5
Minimizing integration risk	1 2 3 4 5
Less time consuming build processes	1 2 3 4 5

Automated deploy - ALM benefits	(1 = No, 5 = Yes)				
Consuming less time on deployment	1	2	3	4	5
Benefitting from earlier and more frequent feedback from testers & end users	1	2	3	4	5
Taking less risk with less human errors	1	2	3	4	5
Increasing user confidence	1	2	3	4	5
Working in an agile development environment	1	2	3	4	5
Shortening the time to market changes	1	2	3	4	5
Less dependent on one person, more persons can deploy (developers, testers, users etc.).	1	2	3	4	5
Increasing transparency and accountability by centralized deploy repository	1	2	3	4	5
Do want less communication and coordination efforts necessary between people	1	2	3	4	5
Increasing flexibility in resource needs and planning	1	2	3	4	5
Decreasing downtimes	1	2	3	4	5

Expert opinions

ALM is a hot topic, there is already a lot of literature about these topics out there. Below a list of previous projects where ALM was successful, the given percentages can also be used to have an idea of the magnitude of the different benefits.

" ALM increases team collaboration and reduces cycle time by 70% "

(Case study: AIG insurance group leverages ALM to attain IT performance architecture advantage, Zdnet.com, D. Gardner interview)

" With all these collaboration and reporting improvements, daily tasks completion rates have risen by 20% "

(Case study Lac Viet Computing Corp TFS012, Microsoft)

" The completed software projects on time double "

(Case study Lac Viet Computing Corp TFS012, Microsoft)

" ALM increases the productivity of developers by 50% "

(Case study Société GRICS, Microsoft)

" ALM reduces deployment resources by 50% "

(ALM summit 2013, M. Uppal and E. Sher for a large healthcare organization BUPA)

" Entire team productivity increases with 30% "

(Forrester report The total impact of Microsoft Application Lifecycle Management, J.W. Lipsitz and M. Evangelista, 2013)

" ALM increases the number of weekly deployments by 300% "

(ALM summit 2013, M. Uppal and E. Sher for a large healthcare organization BUPA)

" ALM increases the number of deployed environments by > 200% "

(ALM summit 2013, M. Uppal and E. Sher for a large healthcare organization BUPA)

" ALM reduces the deployment resources by 50% "

(ALM summit 2013, M. Uppal and E. Sher for a large healthcare organization BUPA)

" ALM doubles the functionality of the delivered software "

(ALM summit 2013, D. Fletcher and C. Remillard)

" ALM increases test coverage by 30% "

(Case study thetrainline.com, thoughtworks)

" ALM improves time-to-market with 50% "

(Case study thetrainline.com, Thoughtworks)

" ALM triples the values for the customers "

(ALM summit 2013, D. Fletcher and C. Remillard)

" ALM and the increased visibility ensures an increase of quality by 25% and decrease of development time by 10% to 20% "

(Case study Comet Solutions Inc., Rally Software)

" 37% faster delivering their software to market "

(QSM Associates, The agile impact report, 2008)

" According to Forrester an ALM investment repays itself after 3 to 6 months "

(Forrester report The total impact of Microsoft Application Lifecycle Management, J.W. Lipsitz and M. Evangelista, 2013)

" On average the deployment time shrinks from 2 hours to 10 minutes and can be done by 1 person instead of a team of release managers "

(ALM summit 2013, M. Brittain)



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