

White Paper - ALM and Integrated ALM



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What is Application Lifecycle Management?

Application lifecycle management - ALM is the process of managing software applications from their initial planning through retirement i.e. from business idea generation to when the application no longer has any business value, and is removed from service. An application's lifecycle includes the entire time span during which an organization spends money on this asset.

The process of managing application's lifecycle can be divided into three distinct areas - governance, development, and operations.

- **Governance** encompasses all of the decision making and project management steps which extends throughout an applications' lifecycle.
- **Development**, the actual creation of application occurs between idea and deployment stage and may require several SDLC efforts depending on the iterations made in Requirements definition, design, coding, and testing phases mainly due to product upgrade or launch of wholly new versions.
- **Operations** start shortly before deployment and involve running, monitoring and maintaining of the application for the rest of its life.

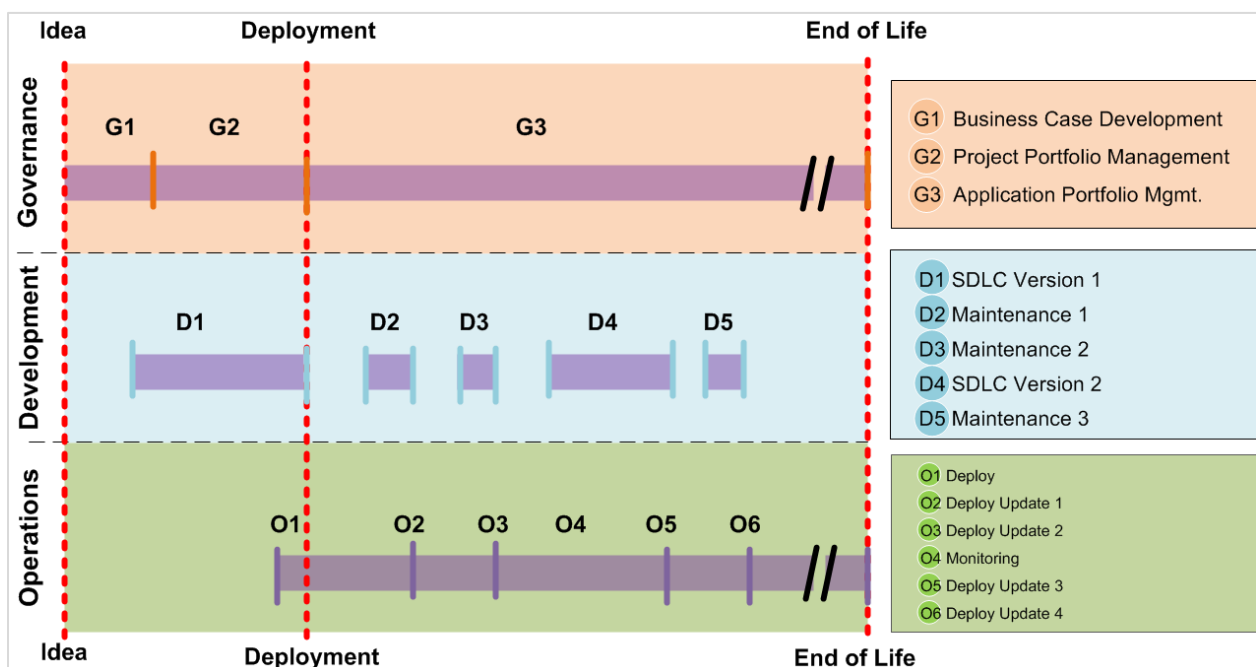


Fig: The Three Aspects of Application Lifecycle Management - ALM

To summarize, ALM is a set of pre-defined processes that start somewhere in the business as an idea, a need, a challenge or a risk and then pass through different development phases such as

Requirements definition, design, development, testing, deployment, release and maintenance spanning across an entire lifecycle of a product. Throughout the ALM process, each of these steps is closely monitored and controlled, followed by proper tracking and documentation of any changes to the application.

ALM is Different from SDLC

ALM is much more than SDLC. Software Development Life Cycle – SDLC, as we all know it is limited to the phases of software development, i.e. requirements, design, coding, testing, configuration and project management. ALM, on the other hand, deals with a broader perspective of applications. It does not finish at the end of development, but when the application is no longer used by the business i.e. primarily many years after the initial development. To simplify, ALM is the superset which includes one or more SDLCs that may appear in the entire lifecycle.

How to Implement ALM

As the three aspects of ALM – Governance, Development and Operations are the indispensable parts of any application, they need to be connected to each other to maximize business value of software. Having the right combination of tools and processes along with a streamlined workflow can make the job easier.

There are a number of vendors and open source groups who provide tools to manage each of the ALM phases. Some vendors bring together a range of tools to support several aspects of ALM. However, ALM tools should be integrated not only horizontally, but also vertically so that connections can be established among cross-functional tools involved in the process, and therefore, the three distinct ALM phases can be performed well.

The Bottom Line

Any organization that wants to adapt to quickly changing requirements of customers and develop scalable and high-quality business applications on time at lower cost needs to set up an ALM framework around its teams and tools. One should take a broad and holistic view of ALM beyond SDLC steps, as that is mission critical to developing any business application.

What is Integrated ALM?

Integrated Application Lifecycle Management (ALM) is a totally integrated set of tools and processes that help organizations manage the complete lifecycle of an application development. It connects different teams, activities, platforms, tools, and processes.

Why Integrate ALM Tools and Processes?

Organizations often spend millions in individual software development tools for managing Requirements, Projects, Portfolios, Software designs, Development, Testing, Deployment, Release and other functional areas. However, these tools are not connected to each other, and therefore, lead to cumbersome manual procedures while synchronizing data or processes between them. The situation worsens if teams working on those tools are geographically isolated and on different time zones.

It is important that enterprises employ an integrated suite of tools that keeps team members in sync with each other. This ensures a greater degree of collaboration among cross-functional teams followed by better quality application and faster delivery.

How does Integrated ALM Add Value?

- Overcomes challenges of globally distributed development - keeps all stakeholders synchronized
- Ensures seamless collaboration among ALM tools behind firewalls across diverse networks
- Manages projects and resources across the tools, breaking down organizational silos
- Helps monitoring exact status of different teams working on different areas of a project
- Maintains a centralized and single data repository for multiple ALM phases and artifacts
- Provides ALM tools interoperability, cross-repository linking and transparency across organizations
- Establishes end-to-end traceability of artifacts from within users' preferred tool environment
- Automates lifecycle processes cutting across tool boundaries
- Reduces manual hand-offs between teams and tools mitigating chances of human error
- Saves time and cost in managing complex, multifarious projects
- Enforces best practice processes across best-of-breed tools. No compromise on tool selection and its operability
- Ensures code quality and performance throughout the lifecycle processes

- Helps Managers gain greater insight into project anytime, anywhere
- Provides real-time actionable metrics to take corrective measures
- Ensures zero-error and zero-loss data synchronization between tools

What are the Challenges of Integrated ALM?

Introducing and implementing Integrated ALM in development organizations is not easy for following reasons:

- a) **Multi-vendor tools use various technologies** such as command line interface, desktop application, client-server, or web based that run on different platforms such as Windows, Linux, and UNIX.
- b) **Software being produced uses a wide range of technologies** such as .NET based desktop application, Java based web application, or a COBOL based mainframe application.
- c) **Tools use various data repositories such as** proprietary file structures, XML, Excel, or relational databases of various flavors.
- d) **Tools are geographically distributed** as the development groups and team members from multiple corporate entities are.

What are the Approaches for Integrated ALM?

Considering the fact that leading ALM vendors are trying to build Integrated ALM platform around their clients' tool environment, their approaches differ significantly. Following are the three major approaches, their limitations and advantages.

Approach #1: Point-to-point Integrated Multi-Vendor Tools

Limitations: Complexity of tool combinations, Handcrafted business integration rules, and replacement dilemma

Approach #2: Single Vendor Integrated ALM Tools

Limitations: Compromise in tool usage, Rip and Replace for existing tools, One size fits all, Technology Islands of development

Approach #3: Multi-vendor best-of-breed Integrated ALM Tools by ESB based Integration Hub

Advantages: No limitations of Approach #1 and Approach #2, Better tool accessibility and configurability, Future tool enhancements, Seamless integration flow, Lightweight integration, Open messaging models, Easy plug-in and plug-out integration service in SOA framework

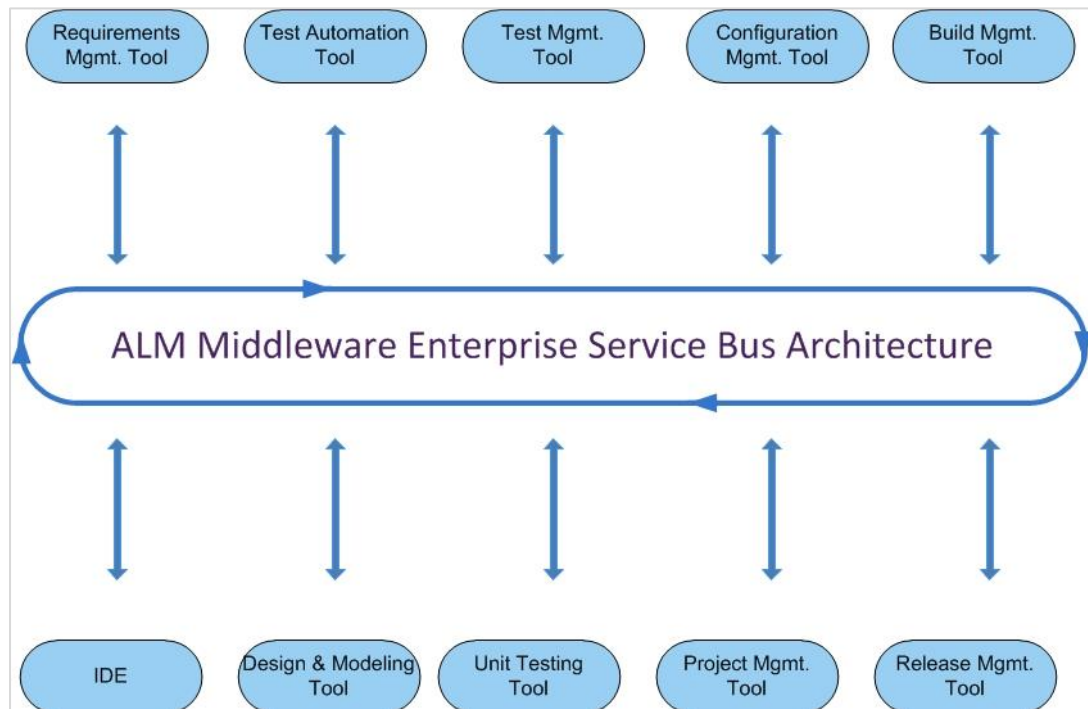


Fig: ESB Based ALM Middleware for Integrated ALM

ESB based ALM integration platform does away with complex and costly integrations, overcoming the limitations of point-to-point and single vendor tools integration. It not only increases connectivity and adds flexibility to gain better control of the applications, but also provides a user with codeless configuration facility.

The Bottom Line

Availability, Performance, Scalability, Security, Manageability and Maintainability - organizations need to consider all major aspects of Integrated ALM before choosing a vendor who can maximize ROI from the existing or new ALM tool investments. Anything less than will not make an ALM framework in real measure.

About Kovair

Kovair Software is a Silicon Valley based software product company specializing in the domain of Integrated Application Lifecycle Management (ALM) solutions and supports global software development and management. Kovair's focus on integrating third party best-of-breed ALM tools enables creation of applications in a synchronized tools environment.

Kovair has partnered with leading technology brands like Microsoft, IBM, CA, BMC and more to provide customers a wide range of integration solutions.

Product Portfolio: Kovair's flagship products [Omnibus Integration Platform](#), [ALM Studio](#), [QuickSync](#) and [Integrated DevOps](#) are highly preferred solutions by some of the major corporations globally.

Recognitions: The [SD Times 100](#) has recognized Kovair as one of the top 100 software innovators in the domain of Application Lifecycle Management. Kovair's Innovations in ALM Tools and ALM Integrations are well recognized both in the industry and by analysts at places like [Gartner](#) and [Forrester](#).

Business Focus: Application Lifecycle Management Products and Services, Integration Platform

Industry Verticals: IT Consulting and Services, Banking and Financial Services, Telecom, Manufacturing, Networking, Healthcare, Defense and Government.

Contact: For more information about product and services contact sales@kovair.com. You may follow Kovair updates on [Facebook](#), [LinkedIn](#), [Twitter](#), [Google+](#), [Slideshare](#) and [YouTube](#).

Important Links: [Why Kovair](#) | [Management](#) | [Product Updates](#) | [Tool Integrations](#) | [Product Brochure](#) | [Videos](#) | [Datasheets](#) | [White Papers](#) | [Case Study](#) | [Technical Documents](#) | [Presentations](#) | [Services](#) | [Blog](#) | [Press Releases](#) | [Events](#) | [Customers](#) | [Partners](#) | [Support](#) | [Contact](#) | [Site Map](#)

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