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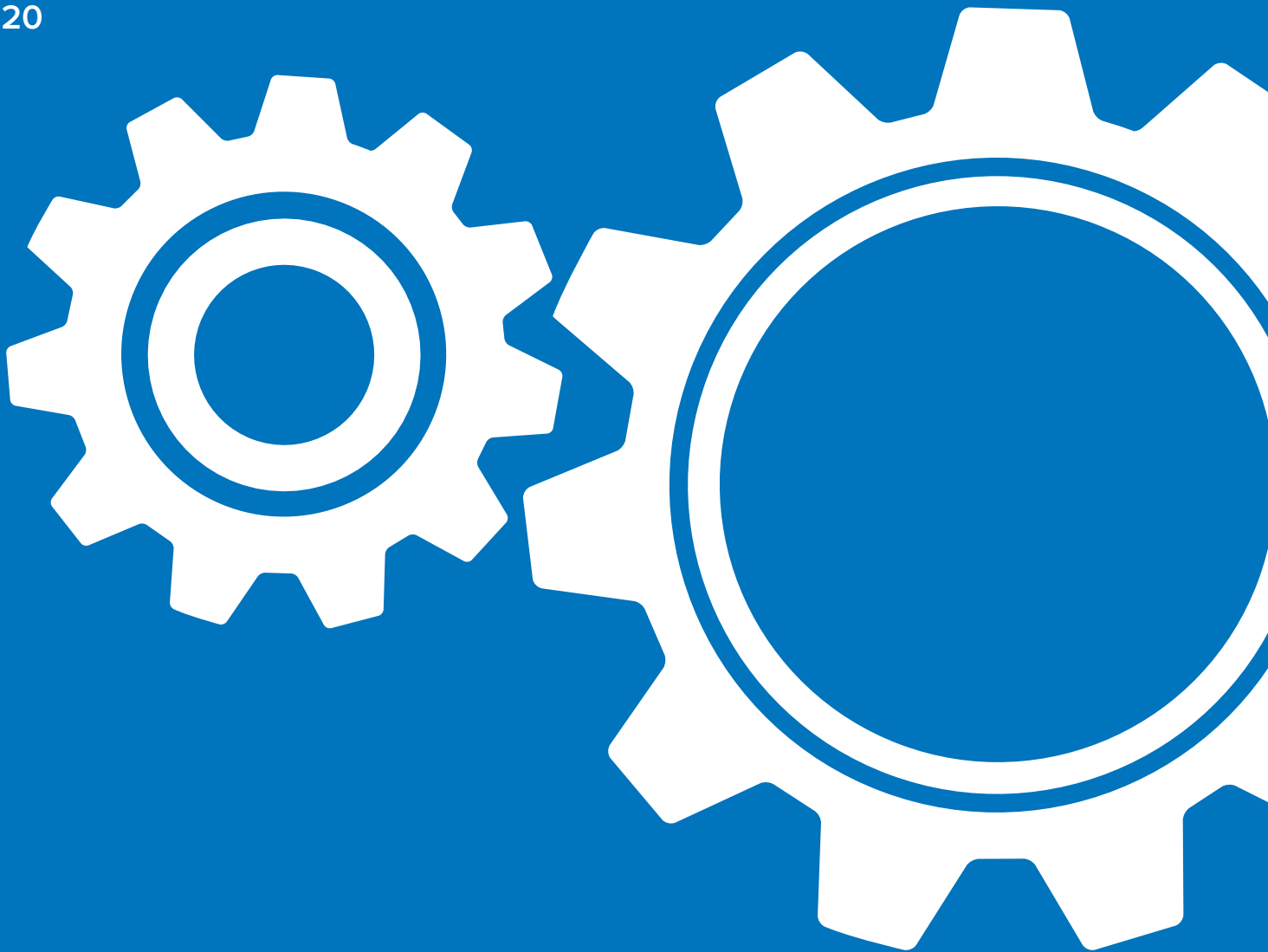
Drivers of Success for an Application Lifecycle Management (ALM) Solution

Based on Real User Reviews of Micro Focus

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ABSTRACT

As Application Lifecycle Management (ALM) technologies mature, users have a range of solution choices. The question that inevitably arises is "What makes for an effective ALM solution?" Members of IT Central Station weigh in on this issue, based on their experiences with Micro Focus ALM/Quality Center. In their view, drivers of success in ALM include the ability to create a single point of truth and handle complex, multi-application environments, compliance requirements, security and integration. Efficiency and ROI are relevant, too, as is the ability to support the upgrade process.

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INTRODUCTION

The management of software has grown more challenging and elaborate in recent years, a trend that shows no sign of abating. In addition to the standard "do more with less, and do it faster" ethos that pervades IT, application lifecycle management (ALM) now means working across multiple modes of development and architectural constructs. While ALM might have once been used to keep track of a relatively small set of long-term "waterfall" development efforts, solutions today must enable Dev, Test and Ops (DevOps) teams to handle workstreams that span agile methodologies, continuous integration and more.

ALM technologies are maturing, so users have a range of solution choices in this dynamic environment. "What makes for an effective ALM solution?" Members of IT Central Station have weighed in on this issue, based on their experiences with Micro Focus ALM/Quality Center. In their view, solutions must be able to handle all the complexity. They should offer efficiency and Return on Investment (ROI), with good support and easy upgrades. Issues like business resiliency, security and compliance also count when assessing how well an ALM solution is serving an organization.
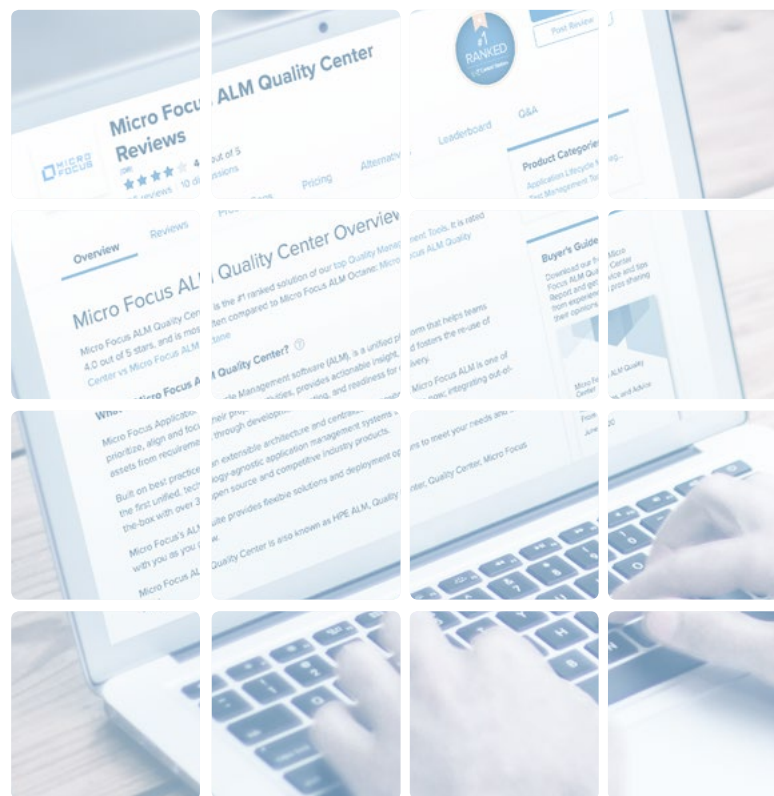
NOTE: Except where indicated, the companies referenced in this paper have over 10,000 employees.

Support for Complexity and Scale

Organizations that embrace ALM solutions typically have challenging ALM workloads to manage. Thus, the ability to handle complex, multi-application environments is considered to be an advantage for an ALM solution. A Product Development Manager at a comms service provider with over 1,000 employees set the context for this issue when she said, "Before, we used Excel for complex testing. Using this solution has been a huge step for us. From reporting to team management, everything is better now."

The Head of Testing at Pick n Pay, a retailer, explained the benefit of a solution that could handle a large number of projects. In his case, they have 17 dedicated testers and automation specialists in their test centers and another 35 to 45 business users/developers or systems analysts that access the ALM solution. He said, "We run multiple projects over multiple domains at any given time with everyone that's got access." For him, value came from Quality Center's ability to send out emails when users log defects. That way, as he put it, "Someone that works over multiple projects knows exactly where to find the defect."

"There's no problem at all with its ability to handle a large number of projects and users in an enterprise environment," said a Performance and Automation Testing Squad Lead at a financial services firm with more than 5,000 employees. With this comment, he too was reflecting on the solution's ability to handle a wide, deep workload. He added, "We only ever have up to 60 concurrent users, but the number of users we've got in the database is in excess of 250. We manage it reasonably well, that way. Project-wise, we've got about 40 to 50 projects in there." Another user, a Director of ERP operations at a healthcare company, remarked that Quality Center "has huge scalability. It's been used for multiple applications that we support from large SAP programs to a smaller system."

Single Point of Truth

IT Central Station members highlighted how having a single point of truth about test management is a key driver of ALM success. For example, the Head of Testing at Pick n Pay uses Quality Center for all of the organization's reporting purposes. He said, "We have dashboards that we've created across domains and projects. With all the information already available in Quality Center, it's quite easy to set up all of our reporting. Work management doesn't necessarily want to go into the details of the projects. It's easy for them to just access the dashboards that we create from information in Quality Center, with direct integration to see that."

The healthcare Director of ERP Operations revealed that, prior to using Micro Focus, her company had been using a lot of manual testing. As she put it, "We had to reproduce or find scripts over and over again. Quality Center enables us to have a single library where people can reference back as we go through multiple releases. We are able to bring non-SAP systems into the fold as well and increase their productivity." Figure 1 depicts an ALM solution serving as a unified source of testing information across traditional, on-premises core IT environments and those that are cloud-based and more dynamic and fluid.

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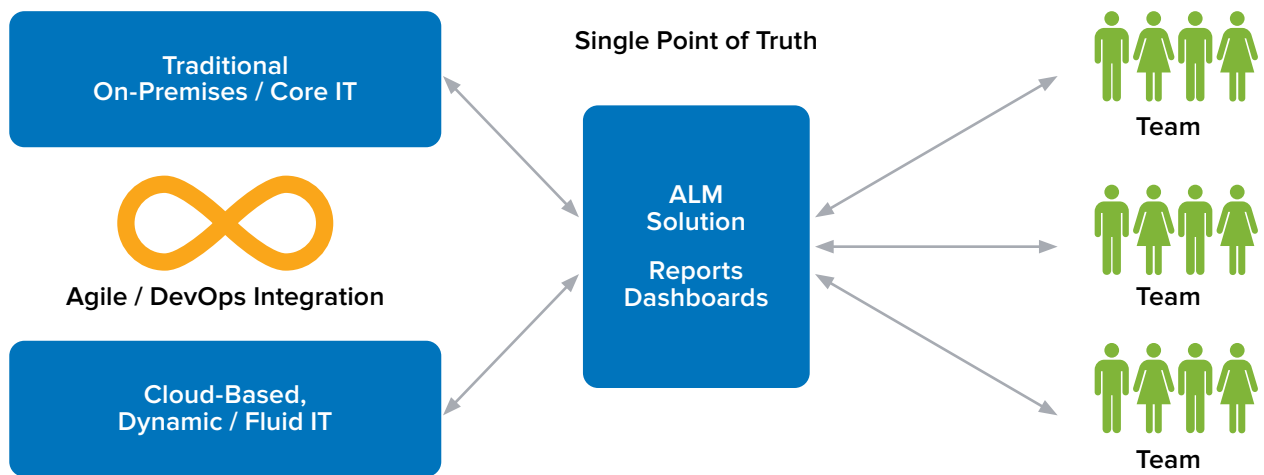
Figure 1 - The ALM solution, where multiple teams can access multiple testing processes— running in traditional core IT environments or in those that are more fluid—establishes a single point of truth for all stakeholders.

A QA Automation Engineer at a consultancy with over 1,000 employees explained that, with his solution, "Multiple users can execute tests independently on their own computer because the UFT scripts are stored in ALM/Quality Center which is web based. All test cases are stored in one location (ALM) which makes it easier for users to access and maintain."

For a Quality Lead at Vodafone, a comms service provider, it was the ability to get an entire project into a single repository, where they could view all the data in detail, that made a big difference. He said, "This is where we keep all our test cases where everyone can reference them. This provides everyone access to the test cases and artifacts via the cloud. There is no need to contact anyone. It is the same with defects. It uses a common forum for tracking the defects and centralizing discussions."

Other notable comments about centralized test management included:

• "Whenever a defect was raised for a particular test, the defect number updated automatically in an integrated, single view. That meant we could see the status of that step. If it failed, we could see that the defect number had been assigned to that particular step." - Sr. Architect at a small tech services company
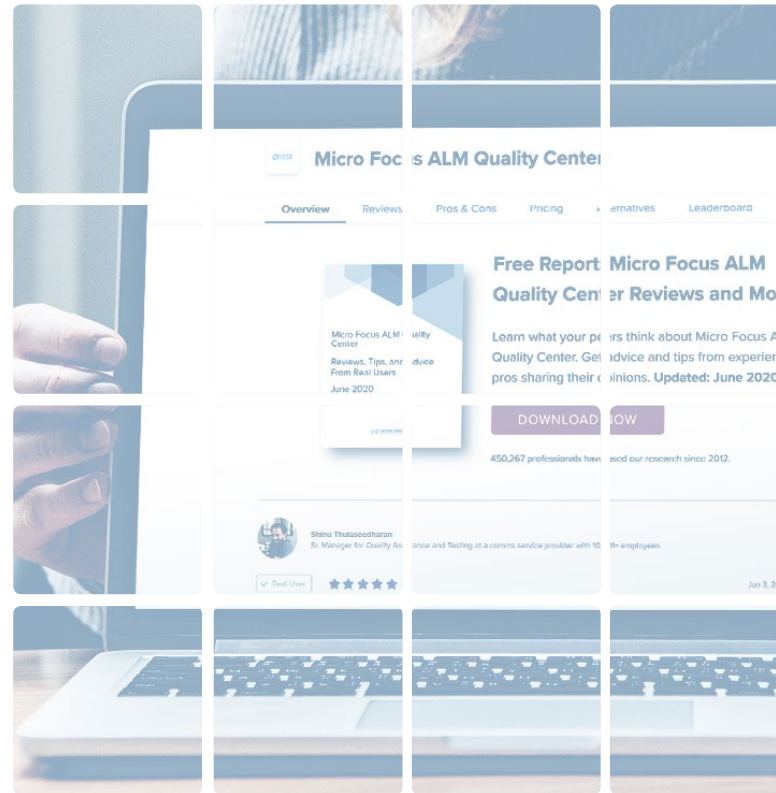
• "If you ask the testing guys what is most valuable, for them it's like a one-stop, central location for every project, where every artifact and everything else is recorded. It is a single point where you can store everything. It's very easy to track and escalate." - Sr. Manager for Quality Assurance and Testing at a comms service provider

• "The write-back to ALM and to be able to document results in a single location is key." - Director of ERP Operations at a healthcare company

• "For us, Quality Center is the single tool in our environment. Whatever the status of the defect is in Quality Center, that's the status. Whatever the status is of execution of test cases, that's what it is." - Head of Testing at Pick n Pay

Efficiency and ROI

To be successful, an ALM solution must demonstrate Return on Investment (ROI). This is largely a matter of quantifiable efficiency gains. For example, the Head of Testing at Pick n Pay found that Quality Center enables a 15% reduction in maintenance, even without automation. "If you add the automation," he said, "in some of our areas like the digital area, it brought it down by about 45%. In some of the other areas by around 50%."

"When you have to map all the requirements, and need requirement traceability, it reduces test management time," said a Test Manager at a construction company. "Compared to managing testing in Excel, it reduces it by 50 percent." A Sr. Manager for Quality Assurance and Testing at a comms service provider had previously discovered that almost 40 percent of their regression cases had to be repeated. Now, as he observed, "Instead of uploading them again, I can easily replicate them in ALM. That is one way I am able to save and I would estimate that saves around 25 to 30 percent." In addition, in terms of execution steps, this company is now realizing savings of between 5 and 10 percent.

Management and organizational efficiency also benefit from an effective ALM solution. In this context, ALM enabled a 20% drop in project management time for a Senior Software Quality

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Manager at a tech services company with over 1,000 employees. Further to this point, an Expert System Test and Test Tools Manager at Airbus Operations commented, "By using QC, we broke down silos (of teams), improved the organization of our tests, have a much better view of the testing status, and became much quicker in providing test results with document generation." In his case, automated document generation provided the ability to perform tests within one day of flight test readiness reviews, a process that used to take several weeks.

Test Management Advances

ALM users expect their solutions to improve their test management processes. For the Performance and Automation Testing Squad Lead at the financial services firm, gains in testing came from the ability to reestablish centralized testing and standards, which they had stopped when they went with agile methodologies. As he said, "It definitely helps in standardizing our testing process and, if utilized properly, it will streamline it because everyone is using the same standards and capabilities." A Presales Consultant at Oracle saw a comparable benefit from ALM, which was the consolidation of the testing process, centralized reporting and ease of analytics on metrics.

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"Quality Center has improved my organization from a traceability and test coverage point of view," said the Head of Testing at Pick n Pay. "We have multiple vendors providing development to my company, Pick n Pay. If we use automation or Sprinter, the tool documents the steps for us as we follow it to the point that we've got a defect, so it's easy to send that information on to third parties so that they can duplicate the defect on their side and then provide us with a fix." He then added, "From a regression point of view, with everything documented in Quality Center, it's easy to go back and execute the same test every time with automation."

Regulatory Compliance

The prevailing regulatory compliance frameworks all mandate controls over software development and the separation between development and production. Access control is one of the main requirements covered by compliance audits, a point addressed by the comms service Sr. Manager for Quality Assurance and Testing. He shared, "In terms of security, ALM has controlled access." The Presales Consultant at Oracle likewise acknowledged the importance of her solution's access control, versioning and audit.

Internal and external audit is part of the compliance picture for many organization, as Pick n Pay's Head of Testing revealed. He said, "From a test execution point of view or the test lab, from an audit requirement, we have internal and external auditors of the major projects that will do an audit on the project to make sure that we follow the right processes and procedures within the TCOE [Testing Center of Excellence] and within our STLC [Software Test Life Cycle] in Pick n Pay. It's easy to give auditors access to Quality Center as a viewer only and they can view everything we've done from test execution and test planning, as Quality Center keeps the audit trail for us."

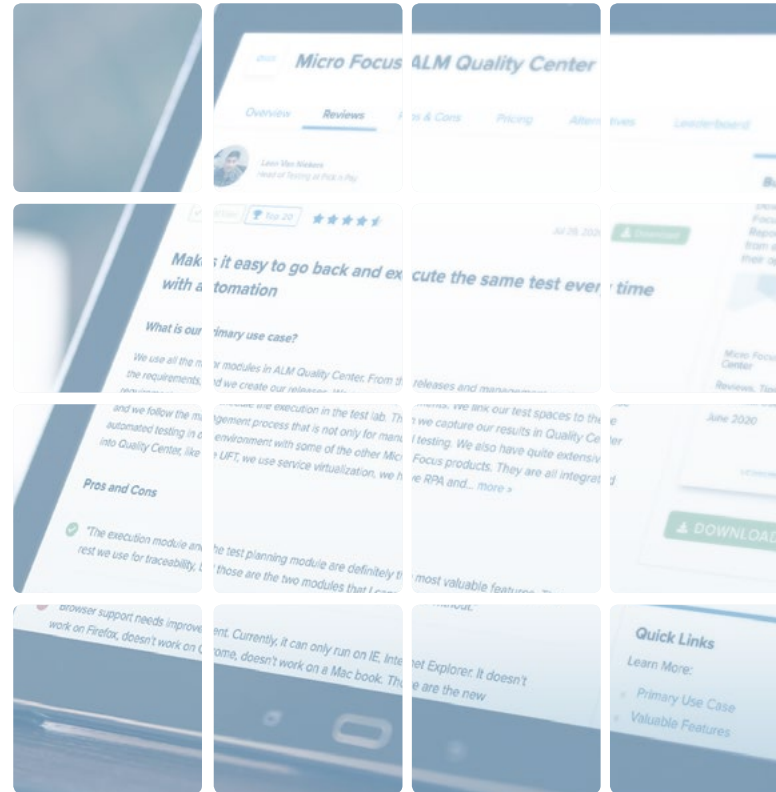Security controls comprise a related area of functionality for ALM. This drew a comment

> **The solution is also really secure. It will only open within our network.**

from the Test Specialist, who said, "Security is covered. HTTPS works well. There is also support for LDAP [Lightweight Directory Access Protocol] over SSL [Secure Socket Layer]. Those are the most important security features." A Sr. Architect at a small tech services company echoed this sentiment, saying, "The solution is also really secure. It will only open within our network. And in the next version, it has access roles and a single sign-on feature where users don't need to log in physically with their usernames and passwords. It automatically takes the authentication and goes."

Business Resiliency

IT Central Station members spoke to the issue of business resiliency as a driver of ALM success. Today, in particular, with so many teams working remotely, it's essential that disruptions to the application lifecycle be kept to a minimum. Pick n Pay's Head of Testing put it this way: "We see this as a tier-one application in our environment. We have full disaster recovery capability." The Sr. Manager for Quality Assurance and Testing at the comms service provider acknowledged the value of his solution's stability in this regard. He said, "The availability is always 99.999 and it has never been down unless there is a planned outage."

Resiliency can derive from hosting, as the financial services Performance and Automation Testing Squad Lead suggested. He said, "Because it's in the cloud, anyone can get to it directly from anywhere. They don't have to come through our network to get to it." This way, even if there is a data center outage, remote workers (which is nearly everyone right now) can still get their application lifecycle work done.

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Working with Agile Teams

ALM solutions achieve high utility when they are able to work with agile teams as well as with traditional "waterfall" style development groups. This may involve integrating with agile management tools like JIRA, which are common in agile team environments. The financial services Performance and Automation Testing Squad Lead addressed this aspect of development when he said, "We synchronize it with JIRA for the requirements and the defects side of things."
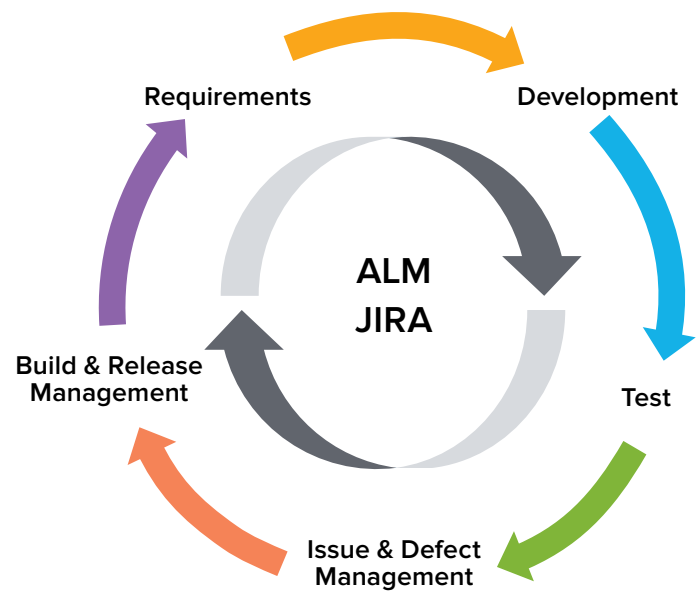
Figure 2 – ALM facilitates agile teams through integration with JIRA

Before they adopted ALM Quality Center, his team was only using JIRA, and, as he put it, "Some teams want to use it for defect tracking. We keep JIRA and ALM in sync using the synchronizer tool that comes standard with it. And, by reestablishing the centralized testing thing, we'll also be ensuring that Quality Center or ALM is used as our tool of choice. We will reestablish the standards that somehow were dropped when we went to Agile." Figure 2 depicts ALM and JIRA operating in the context of agile teams.

The Head of Testing at Pick n Pay also integrates ALM Quality Center with JIRA. In his case, they have third-party development teams that use JIRA. Working together, his team can log the defects in ALM Quality Center and then send them to JIRA via the integration. He observed, "When they update, we get information back on our side so that we are on the same page."

Pick n Pay also integrates Micro Focus ALM/ Quality Center with JIRA, as their Head of Testing explained. He said, "We have our third-party development happening, where they use JIRA and we use Quality Center, where we can log the defects in Quality Center then via the integration then send them to JIRA. When they update, we get information back on our side so that we are on the same page." They also have extensive automated testing in their environment, integrating with other Micro Focus products, such as UFT, service virtualization, RPA and Mobile Center.

Support and Upgrade Process

Good support is essential, given the criticality of the ALM solution and its connections with so many different parts of an organization. After all, downtime affects a lot of operations. This include upgrades, which should ideally run as smoothly as possible. The Sr. Manager for Quality Assurance and Testing at the comms service provider addressed this need, saying, "If we request any kind of support, they are always there to help. They are very good. Upgrades happen in a single day, or sometimes two to three days." The construction company Test Manager also felt that his solution's "upgrades are quite good." Pick n Pay's Head of Testing shared that, in his case, an upgrade does not take more than two hours.

The financial services Performance and Automation Testing Squad Lead said, "The fact that we've got it in the cloud at the moment, as software as a service, enables us to keep up to date. If it's a back-end or a server-only change, it just gets done. That's the beauty of the arrangement we have with a SaaS or cloud-based version. We started using the cloud-based version about four years ago. The setup was very easy and very quick. I did the migration."

"Their technical support is very helpful," said the tech services Sr. Architect. "They provide support 24/7 and they have resolved whatever issues have come up, on time." The Quality Lead at Vodafone expressed a similar sentiment, saying, "I would rate our Qatar technical

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support as 10 out of 10. Our technical support person is always available to help us. We are very thankful for the service and support. The communication is excellent." Remote access to the ALM environment was what made a difference in the eyes of the Healthcare Director of ERP Operations. She said, "When we have needed them, it's a quick turnaround. We've been satisfied."

CONCLUSION

ALM configurations and user experiences are highly varied, with each organization pursuing its own approach to managing the application lifecycle. The key success factors for an ALM solution appear to be consistent across teams, however. Users want solutions that offer centralized test management and integration with other systems. They need ALM to address their compliance and security requirements, even as they gain the ability to handle complexity and scale in applications and development teams. Solutions need to be resilient, as well, because the work should never stop. Ultimately, the solution has to demonstrate clear financial value and ROI. Continuous change in business and technology means that the application lifecycle will surely evolve. However, these core elements of ALM success will likely remain constant.

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