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MAKING THE LEAP TO UPGRADE YOUR SOFTWARE A FOLLOW-UP TO ACHIEVING THE FULL POTENTIAL OF ASSET PERFORMANCE MANAGEMENT APPLICATIONS

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INTRODUCTION

As discussed in “Achieving the Full Potential of Asset Performance Management Platforms” which was published in the Nov/Dec 2017 issue of *Inspectioneering Journal*, companies often tend to:

1. Struggle with implementations of Asset Performance Management (APM) applications, and
2. Fail to achieve the full potential of those applications.

As posited in the first article, there are many reasons for these struggles, including: lack of vision/goals, software-focused implementations, and exclusion of necessary activities to minimize costs. By taking a different approach, in which a reliability or mechanical integrity program aligns the functional needs of the business with the technical capabilities of APM, the full potential of your software can be unlocked.

While the first article discussed implementation, this article will explore incorporating this approach into an important initiative that many APM software users are currently evaluating: **upgrading their software to the newest version.**

Fundamentally, upgrades are for the best—they often offer new user interfaces, new technologies, and improved user friendliness. However, realistically, upgrading to a new software version does present some challenges which are inherent to a platform upgrade. The situation is compounded for users that have added a substantial volume of customization to their installation.

In facing these challenges, a unique opportunity is created to address long-standing pain points, address inefficiencies in work processes, and to realign reliability or mechanical integrity programs to achieve significant improvements. If done correctly, the upgrade will allow you to refresh your program and use of the tool by keeping current pieces you like, discarding what isn't working well, and leveraging new capabilities.

To unlock the potential during the upgrade process, APM users should split the upgrade project into three components:

1. **FEED: Define the Path** - Using Front-End Engineering Design (FEED), assess the status of your present reliability or mechanical integrity program and system usage; gain an understanding of previous version's functionality and work processes; define what “good” looks like; and then define your path forward for your program.

2. **Upgrade Execution: Go Lean** - This is where the technical execution of the upgrade occurs, using the FEED decisions as an input.

3. **Post Upgrade: Make It Stick** - In this component, you should address change management and how the user community will be affected.

FRONT-END ENGINEERING DESIGN (FEED): DEFINE THE PATH

FEED is critical in establishing the foundation for a successful implementation. The first step is to assess your present program and identify any areas for improvement. A comprehensive assessment is valuable in that it indicates the relative quality of your plant's reliability and integrity programs.

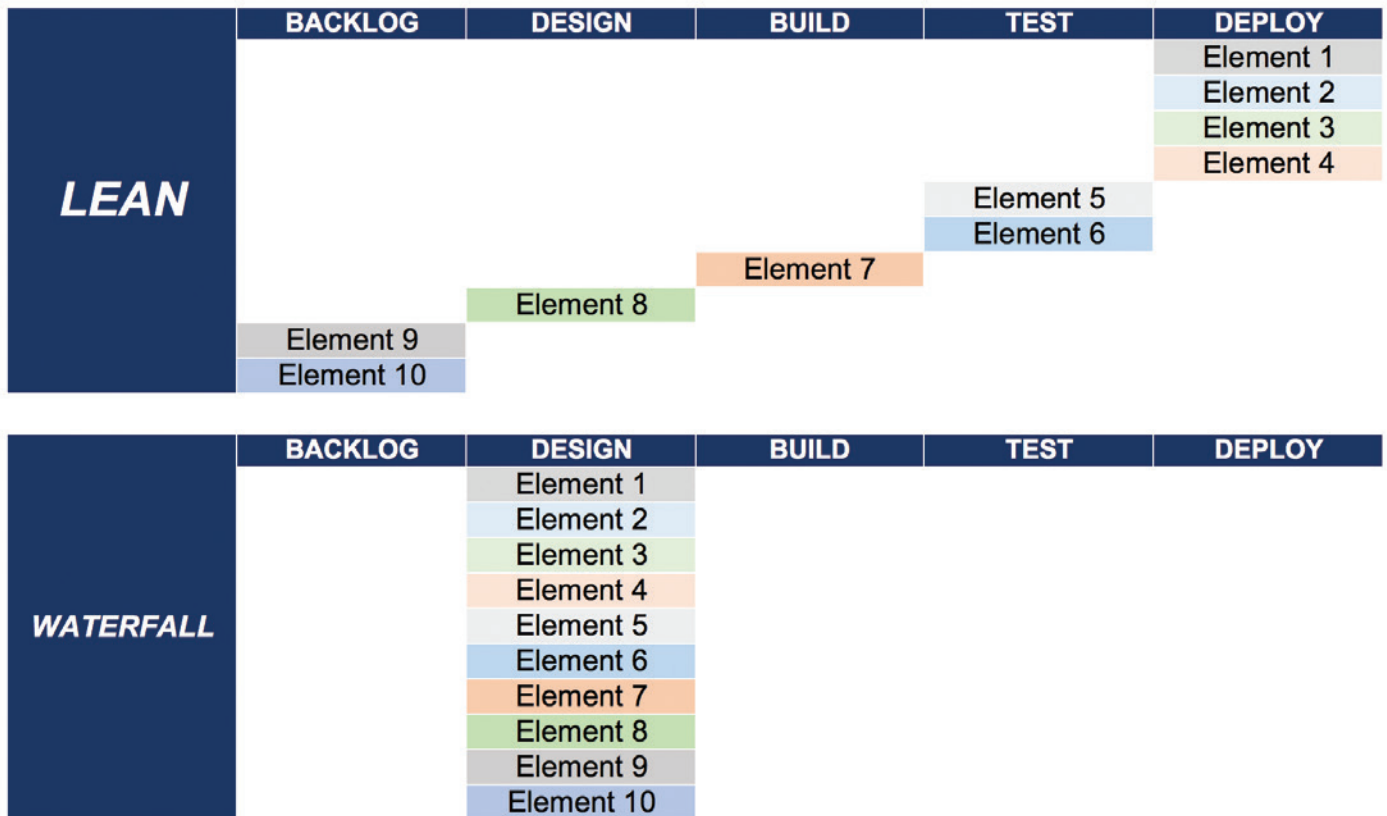
It is also important to understand how the new version of your tool is designed to work, including the functionality and work flows. The baseline workflows can then be aligned to the organization's work processes so gaps or areas of improvement can be identified. Defining and regularly monitoring key performance indicators (KPIs) that measure system usage, training participation, and training effectiveness will help yield better results post-implementation.

The next step is to conduct an item-by-item review of the current version's customization, where a detailed review is conducted to determine if the customization is still required. This is an important decision point that breaks down into three possible results: carry the requirement forward, return to baseline, or retire it as it is no longer applicable. It is of utmost importance that the decision is made relative to the optimal work process for the organization.

The FEED then concludes with the creation of a change management plan that maps out how the user community will be trained and supported so that the ramp-up time can be shortened, and new functions become engrained. Change management is most often overlooked or disregarded activity, but it's one that has a direct correlation to success of your overall effort.

UPGRADE EXECUTION: GO LEAN

Moving into the execution of the upgrade, the configuration decisions made during the FEED drive the technical requirements that will be delivered. Traditionally, APM projects follow a standard waterfall process where mandatory gates are established between project phases. These gates are intended to enforce that



the quality philosophies of design, build, test, and deploy are achieved, but they also require that deliverables pass through the gates all together, which ultimately slows progress.

Delivery can be accelerated through the application of lean principles, which eliminate the waterfall process bottlenecks while retaining the important quality philosophies. As an example, picture a project that has ten design elements. Following the waterfall methodology, all ten need to finish the functional design process before moving into the build phase. If lean is applied after the first element finishes functional design then it moves into the build phase and the second element starts functional design. As shown in the illustration below, after six weeks the waterfall-based project is still in design phase, while the lean-based project is halfway to completion.

Using lean, work in progress flows as activities are performed concurrently. This acceleration is estimated to result in a 20-50% reduction in time needed to complete the project.

In addition to time efficiencies, the lean approach has additional upsides. Customer engagement in the project is improved due to design and testing activities being performed continuously, instead of in batches. Following waterfall, the customer waits weeks to months while the solution is built and has minimal to no participation, often leading to waning attention to the project objectives. Finally, lean enables faster reaction to design adjustments; changes are identified sooner and rework flows at the similar accelerated work in process rate.

POST-UPGRADE: MAKE IT STICK

The post-upgrade steps are also important because in this stage,

the upgraded application and work processes take hold and ownership transfers from the project team to the end users, where the long-term value will be realized. The following activities are critical to realize long term success:

Test, Test, and Test Again

Testing is one of the most critical aspects of this stage: testing of the application and functionality, testing of the processes, and testing of performance to ensure a seamless execution.

A formal test plan with test scripts and knowledgeable end users should be utilized to identify any issues early-on, and testing should be continued until no further issues are encountered. The test plans should be detailed, but also allow for “freelance” testing to identify issues outside the normal work processes. Further, the testing should be centralized and happen in-person with your key users to ensure collaboration and “outside the box” thinking.

Training

Training for end users and system support personnel that is specific to their roles, responsibilities, and work process is another critical aspect of success. Training documentation should be provided to coincide with the training, as well as documentation (highlighting the activity, roles, and responsibilities) for all work processes.

During the training process, new work that was not entered into the previous system can be entered to allow the end users to become comfortable with their day-to-day role and responsibilities, with the training personal overseeing the effort to answer questions and address issues.

KPIs: Before and After

What will make your project successful? Identifying your organizational goals and key performance indicators is critical to defining success. Taking a snapshot of those indicators before “go live” to compare pre- and post-implementation will be critical in solidifying that success. It is a definitive method to measure your success—tied to organization goals—that can be communicated to all levels of the organization.

Communication with Users

Communication with users on the business objectives of the project, the business reasons for the project, and the plans and schedule for the initiative is key to ensure adoption of the project. The communication can take many forms, but it's important that the business objectives of the project are communicated by plant or company management and reinforced with further communication via emails, website updates, and training-day introductions.

Internal User Group

A final aspect of the post-upgrade step is to establish an internal users group. This group will provide a setting in which key users from multiple plants routinely meet to discuss issues, address changing business requirements, standardize on work processes and system usage, and establish future direction. This group fosters continued commitment to the work processes, continued improvement of the application and work processes, and identification of new opportunities.

CONCLUSION

Turning APM upgrade struggles into success starts with taking a new approach. Start with fundamentals: assess your current program; align the business functional requirements to APM capabilities; invest in a comprehensive plan; execute lean to deliver faster; and enhance abilities to make the changes stick. Don't be discouraged by upgrading. There is value to be realized from your APM system—recalibrate perspective and unlock the possibilities. ■

For more information on this subject or the author, please email us at inquiries@inspectioneering.com.

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