Integrating your Requirements Management System with your Architecture Platform

In Q1, 2022, a survey was conducted to assess the **State of the Enterprise Architecture** industry and understand the key trends facing companies as they transition out of pandemic operations into a new normal. One of the key findings from that survey is that companies are increasingly seeking to integrate their requirements management systems into their architecture platforms to enable better transparency and traceability of requirements through the architecture designs into the process and technology solutions that realize the requirements. This represents one of the key missing links in a DevOps toolchain and reflects a renewed desire to quantify the value of technology project investments across the enterprise.

CONTENTS

Why this, why now?

The focus for integrating requirements management systems with architecture platforms is being driven primarily by changes in the tools organizations are using to capture and manage their requirements. Requirements management has long been a core component of Enterprise Architecture. If you look at the TOGAF Architecture Development Method (ADM), you will see Requirements at the center of everything an architect does. Where do these requirements come from? In most cases, it isn't the Architects defining the requirements (or even capturing them) – that activity is typically performed by stakeholders, business analysts and project managers.

Architects are responsible for using the requirements to generate process and solution designs. Analysts and Project Managers (PMs) would do their job with their respective tools, generate a BRD (business requirements document) and pass it along to the architects for solution design. Architects would "re-model" (a fancy word for copy/paste) requirements documented by their project stakeholders into their architecture tools in order to have an object that they could then link into their architecture, and when they were done, they would generate another document (a solution design) and pass it back to the stakeholders (and development teams) for review.

This process has been repeated over and over for decades – not because it is the right way or best way to do it, but because that is what the tools available to architects were capable of. Until recently, architecture modeling tools were primarily desktop applications with little ability to integrate with external data sources. When they could import or integrate data (like requirements) from external sources, architects were faced with a dilemma – either risk having copies of requirements out-of-sync with their source system or try to convince project stakeholders to use their architecture tools to manage and update requirements. Architects being the strong personalities that they are, often attempted the latter – creating processes and governance requirements that sought to force project stakeholders to use their tools. This effort failed in either adoption or sustainability almost every time it was attempted. Why? Because the tools that business analysts and PMs need to manage requirements fundamentally differ from those, an architect needs to model solution designs.

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Times have changed, and so has the way people do their jobs

Over the past 3-5 years, there has been a significant evolution in the tools that Business Analysts and Project Managers use to do their job (architects, too, but we'll get to that shortly). Waterfall project management tools such as Microsoft Project have fallen out of favor, replaced by a new generation of SaaS-based, requirements-centric, Agile Project Management tools designed to help agile teams iterate quickly, fail fast and learn from mistakes and accelerate the time to value of their project deliverables. Even small organizations that used spreadsheets to manage requirements in the past are looking to this new generation of SaaS tools to enable agile projects. Platforms like Jira, Jama Connect and Azure DevOps provide easy-to-use web and mobile-based tools that are optimized for the activities that PMs and Business Analysts need to perform. Robust versioning, change management, reporting and auditing capabilities are paired with easy-to-use user interfaces for capturing, managing, prioritizing and reviewing requirements.

At the same time as requirement management tools have been modernizing, so have architecture platforms. Desktop architecture modeling tools utilizing file-based models have been upgraded to database repositories that enable teams of architects to work together on a shared model. Web interfaces that can interact with these repositories provide simplified experiences for stakeholders to interact with architecture content -through dashboards, interactive diagrams, discussions and online review facilities.   Perhaps the most powerful (and often overlooked) feature of modern architecture management platforms is their ability to exchange data with external systems – such as requirements management and ITSM systems.

Sparx Systems has been leading this evolution, building on the success of their flagship Enterprise Architect product and expanding it into the full-featured Sparx Systems Architecture Platform that we have today. The Sparx Systems Architecture Platform is available as a SaaS solution (available through Sparx Services North America), a private-cloud deployment (with assisted setup), or it can be deployed in a legacy on-premises environment as well. The various deployment options make the modern features of today's Sparx Systems Architecture Platform available to organizations wherever they are on their cloud migration journey.

Real-time integration between requirements management and architecture platforms enables Project Managers and Business Analysts to work in the simple and efficient tools they need while enabling architects to map requirements to solutions within their architecture modeling tools. As the survey reported, an increasing number of companies are implementing these integrations to achieve end-to-end traceability from requirements, through design and engineering, to the solutions that ultimately fulfill the business needs that the requirements described.

Why is Requirements Traceability so important?

Companies invest considerable time and effort in strategic planning and portfolio management activities – identifying the changes required to address the organization's goals and achieve competitive differentiation in the marketplace. The same companies are investing large proportions of their financial and human resources in implementing technology solutions to support business operations.

For many years, executives and company shareholders have been asking questions but rarely receiving satisfactory answers.

- Are these IT investments really delivering the value that they should?
- Are the IT projects being developed and the solutions being deployed aligned to the company's strategic goals and operational needs?
- Are these the right projects for right now?
- Did that project achieve the objectives it was chartered to address?

The reason IT leaders have been unable to answer these questions confidently is because they lack requirements traceability.

With requirements traceability implemented, leaders can analyze and report on what requirements have been fulfilled and what it cost (and how long it took) to fulfill them. Equipped with this information, they can then make an objective evaluation of costs to the value produced by the system or process placed into operation, yielding an accurate ROI for portfolio management and investment planning.

Having the best tools isn't enough – you need to integrate them

Most enterprises and large government organizations have adopted a "best in breed" approach to tooling. Instead of finding a single tool that will be all things to all people, they select individual tools best suited to each job discipline they are looking to enable. This makes sense as the cost of tools is typically less than 5% of the human resource cost. When you hire great people and pay them well, you want them to have the tools they need to maximize the value they return to the organization. What tools are best? Well, the market speaks for itself.

The Sparx Systems Architecture Platform is the most widely used Architecture modeling tool on the planet – with over 1M users globally. Sparx Systems Enterprise Architect provides the robust features that architects need to model almost anything (from strategy and ecosystems to processes and software designs to hardware components and integrated systems. Since the goal is to enable architects to be productive, leveraging the modeling tools they already know makes a lot of sense.

When it comes to requirements management tools, Atlassian Jira, Jama Connect and Azure DevOps from Microsoft are the solutions in use by most of the enterprise and government organizations today. Does your company have these tools today? If you're reading this, the answer is probably "yes".

But just having the best point solutions doesn't mean you can do requirements traceability – it just means you have the core technology building blocks. You can only unlock the true value potential of these tools by integrating them together.

Integrating your Architecture platform with Requirements Management systems

The Sparx Systems Architecture Platform has offered data interchange capabilities for over a decade. Initially, these were import/export capabilities exposed through MDG Integrations (Sparx Systems' fancy term for a product add-in) for Enterprise Architect. With the release of Sparx Systems Pro Cloud Server (the middleware solution to facilitate secure interactions with database-backed repositories), architects were given the ability to selectively push and pull data from external systems. Sparx Systems Prolaborate extended the integration capabilities to enable direct linking to external objects and editing of data in the external system directly from the Prolaborate web interface. Sparx Systems offers system integration capabilities with the most common tools architects need to interface with – making their job significantly easier.

If you want to integrate between the Sparx Systems Architecture Platform and the most commonly used enterprise requirements management tools (Jira, Jama Connect and Azure DevOps), Sparx has you covered. There is no need for a third-party integration solution. All three of these integrations are included features with the Sparx Systems Pro Cloud Server middleware, and additional integrations for Jira and Azure DevOps are also available in the Prolaborate collaboration product. You already have these features available if you have Enterprise Architect and connect to your repository via a cloud connection today.

The question is... "Are you using the capabilities you have to their full potential?"

Tools are useless if your team doesn't know how to use them

Project Managers need to understand how to define a requirements scope for architects to design against, manage change requests, prioritize solution features, track issues and report on requirements fulfillment utilizing an integrated toolset.

Sparx Services North America has been teaching architects and project teams how to manage architecture requirements for decades. As the tools and methods have evolved, so have their training and consulting offerings. While structured course curriculums are still available, most organizations are taking advantage of applied mentoring services wherein a trainer works with a project team or a group of architects, business analysts or PMs to configure tooling, review best practices, teach methods and implement process changes directly within their daily work, thus avoiding the need for participants to translate between what they learned in class and how to apply it to their specific projects.

Requirements traceability is a process, not a tool. It is something that is supported by using tools like Enterprise Architect, Jira, Jama Connect and Azure DevOps but enabled by the activities of business analysts, PMs and architects within your organization. If you want to realize the full value of requirements tracing, your implementation /adoption is not complete without process updates and user training to leverage the integrated toolset.

Business Analysts need to understand how the requirements they capture will be used in the design process, how to provide feedback on solution alternatives and effective techniques for managing requirements change and refinement during the design process. Architects need to understand how to link requirements to solution elements within their designs, how to provide feedback and engage with analysts to clarify requirements and how to perform requirements tracing across the different states of an architecture model.

Are you struggling to implement requirements traceability within your organization?

If you have been attempting to implement requirements tracing within your team or company and struggling to realize the full value potential, or if you've been considering this as a potential initiative but don't know where to start – Sparx Services North America can help! We specialize in all the different facets of integrating the Sparx Architecture Platform with other systems, configuring it to meet your organization's unique needs and providing your staff with the skills they need to use the tools they have effectively. If you don't have the Sparx Architecture Platform yet or are still working from a file-based repository, we can help you get started with either a SaaS or self-hosted implementation.

Contact us at: **https://sparxsystems.us/contact-us/** today to talk with one of our requirements management experts.