Case Study

Developing an

Enterprise-wide Architecture

within

Insurance Australia Group

This case study was submitted to Sparx Systems by IAG after successfully using the Enterprise Architect modelling tool to help document IAG's complex systems environment and to better understand the company's application infrastructure.

Background

IAG NZ has a complex systems environment. To help manage this environment, the Architecture Team developed some architectural roadmaps to help better understand and manage their applications, infrastructure and interfaces. In order to do this reliably and efficiently there was a requirement for a common architecture modelling and visualisation capability which could be used by technical teams across multiple sites. Where duplicate functionality exists across multiple systems, this single modelling and visualisation environment would allow for analysis and identification of these occurrences. A single systems view also facilitates re-use and enables staff to search in one place for systems or system components implementing sought after functionality.

Business Goal

The overriding goal was to have “a single point of truth” about the design and dependencies between technology components.

To achieve this goal, the following challenges needed to be addressed:

- Disparate tools being used to capture system designs
- Tools used did not centralise and share artefacts between models
- File based designs quickly became out of date due to “copy and paste”, people saving their own copies etc…
- No consistency in the look and feel of diagrams (lack of standard stencils or templates)

The goal was to eliminate the effort in synchronising “stores” and improve reusability and collaboration between projects by having them load their artefacts directly into a project workspace within the central database. Ideally, IAG will build an interlinked picture of the entire systems environment to facilitate more than just re-use and consolidation. Operational teams could use the information to perform impact assessment on change (i.e. quickly identify dependent systems and users).

Tool Requirements

Initially, the key requirement was for a core architecture team to visualise the current systems environment and plan a targeted architecture transition. Following the installation of Sparx Systems Enterprise Architect this has now expanded to include the business analysts for requirements modelling and support teams are evaluating the tool to see verify if they can also catalogue the operational structure of the systems.

The key requirements when IAG evaluated tools for enterprise architecture were:

- Reduce time and money maintaining information on the current building blocks. (The current PowerPoint slides are hard to maintain, synchronise and keep current)
- Make the building blocks more usable and accessible by a wider audience including management and technical staff (current PowerPoint slides only offer one view)
- Identify and reduce disparity within the IT environment
- Save time and money within projects
- Provide a single architectural vision of the planned target state of the IT systems
- Provide representation of the environment that allows mapping between Business Process > Enterprise Architecture > Architecture Building Block > Solution Building Block > Implementation
- Allow evaluation of current and target architecture against performance metrics or strategic goals
- Be cost effective. Be able to scale out across the enterprise without incurring a progressive cost structure

Tool Evaluation and Selection

A comprehensive evaluation against other modelling tools was conducted. Enterprise Architect from Sparx Systems was chosen because it can be applied in a wide range of disciplines. Sparx Systems Enterprise Architect enables modelling across the Software Development Life Cycle (SDLC) and provides the ability to link artefacts, all of which are essential to building an enterprise wide picture. David Teague is a domain architect for applications and data within IAG NZ. He is responsible for documenting IAG's current state applications and data, as well as future (target) state for projects to align to. He commented, "I found Enterprise Architect much easier to 'get into', having a modern, easy to use UI."

Sparx Systems Enterprise Architect was chosen as it:

- is feature rich
- is suited to analysis and architecture disciplines
- is cost effective
- uses a non-proprietary "open" store for model elements (un-encrypted relational database)

Sparx Systems Enterprise Architect stores its data in a SQL Server database. This database is replicated between two sites for best performance. Projects work off their own libraries to create artefacts and once a project design is completed and approved, these artefacts are imported into the central database and added to the Enterprise model.

"Data only" views are available, where non-UML people can use MS Access front ends to view and edit lists of applications, databases and infrastructure (i.e. servers, switches etc…)

Models include a number of standard stereotypes (common patterns) that allow modelling to higher level abstractions providing "big picture" views of the environment. This includes application, database, server and interface stereotypes.

The diagram below shows the Enterprise Architect deployment and information sources currently implemented within IAG NZ

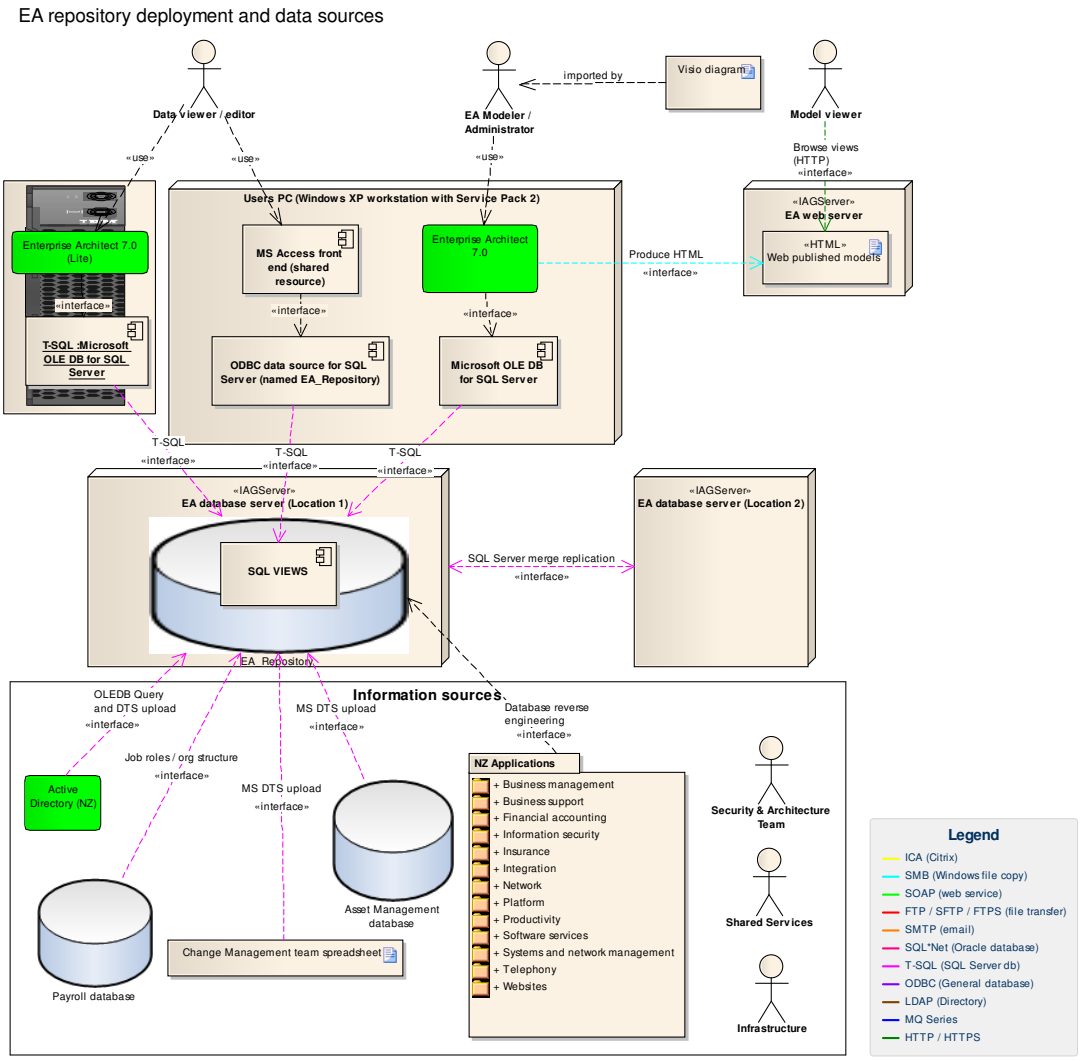

Figure 1: Deployment of Sparx Systems Enterprise Architect (EA) at IAG

Enterprise Architect Benefits

Single Shared View

With the deployment of Sparx Systems Enterprise Architect, IAG staff now have one place to search for information on applications, databases and technology infrastructure and, although it is not yet complete, it contains most of the information that IT staff need to perform their work.

Consistency

Analysts and architects now produce artefacts in a consistent manner and there is flow from one discipline to another (i.e. architecturally significant use cases are taken from the analysts' output, from which use case realisations are linked and drawn).

Standardised Work Practices

Adoption of a shared technology enables process improvement and better work practices apart from uniform utilisation of legacy modelling tools across the group. A tool is only is good as the will and discipline of the people using it and having management mandate and backing (via reviews / KPIs) serves to ensure greater utilisation and associated benefits of a single technology that meets the needs of everyone.

Conclusion

By deploying Sparx Systems Enterprise Architect, IAG achieved their goal of being able to visualise designed systems in a consistent manner within a single place. System changes become self documenting and can be “absorbed” back into the current state enterprise model. It is envisaged that the tool and quality of information contained within the model “sell itself” to gain momentum as the tool of choice within other teams of the SDLC. Application architecture is mainly modelled within Enterprise Architect, while infrastructure elements are still in other packages. Over time they aim to have all architecture artefacts produced (and linked together) within the one Enterprise Architect model.

Sparx Systems Enterprise Architect is now IAG’s standard tool for Enterprise Architecture modelling. The work by IAG NZ was a pilot for the wider organisation; the intent is for the work of the New Zealand team to be extended across the Australian operations in 2008.

About IAG NZ:

IAG New Zealand Limited (IAG NZ) is New Zealand's largest general insurer. We are part of Insurance Australia Group, which is headquartered in Sydney.

Insurance Australia Group Limited (IAG) is an international general insurance group, with operations in Australia, New Zealand, the United Kingdom and Asia. IAG's businesses underwrite approximately $7.5 billion of premium per annum and employ around 16,000 people.

IAG NZ underwrites insurance for some of New Zealand's leading financial institutions including ASB, BNZ, PSIS, HSBC, AMI, Westpac and Warehouse Travel.

IAG NZ has about 36% of the general insurance market in New Zealand. The company employs more than 2,000 people in a nationwide network of eight call centres, 30 sales centres and 10 branches. Claims centres are located in Auckland, Hamilton, Wellington and Christchurch, with head offices providing support services in Auckland and Wellington.

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About Sparx Systems:

Sparx Systems specializes in high performance and scalable visual modeling tools for planning, designing and constructing software intensive systems.

With customers in industries ranging from aerospace and automotive engineering to finance, defense, government, entertainment and telecommunications, Sparx Systems is a leading vendor of innovative solutions based on the Unified Modelling Language (UML) and its related specifications. A Contributing Member of the Object Management Group (OMG), Sparx Systems is committed to realizing the potential of model-driven development based on open standards.

The company's flagship product, Enterprise Architect, has received numerous accolades since its commercial release in August, 2000. Now at version 7.0, Enterprise Architect is the design tool of choice for over 100,000 registered users in more than 60 countries world wide.

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