

Review of Essential Architecture Manager 1.0

By David Rice

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In choosing a candidate tool for this review several related, current affairs played a part. One was the economy in general and the fact people are looking to stretch their money as far as possible, related to that is the fact budgets are being cut, including for EA efforts and this fact leads to the inevitable conclusion that we must focus our efforts what is essential to meet our goals and show a quick return on investment.

There are two easily identifiable costs involved in EA Projects: Consultants and Tools. Since this column is a tool review column and not a consultant review column (imagine the fun that would be) I focused on looking for a tool that would help to stretch an EA Budget by minimizing tool costs. Essential Architecture Manager 1.0 fit the bill perfectly since it is free.

Tool Overview

Unlike so many other tools reviewed in the Architect's Toolbox, Essential Architecture Manager is not a shrink-wrap, monolithic tool. Instead the tool itself is actually a set of tools and plug-ins utilizing other free, open-source software, chief among those is the Protégé Ontology Editor and Knowledge Repository.

Essential Architecture Manager is delivered as a download from www.enterprise-architecture.org.

The downloaded file contains the following software components;

- **Essential Architecture Manager Plug-ins** - a set of custom built plug-ins for the Protégé Ontology Editor
- **Essential Meta-Model** - a Protégé Knowledge Base that has been pre-populated with the meta-classes of the Essential Meta-Model
- **Essential Viewer** - a Java Web Application for publishing, analyzing and reporting against enterprise architecture models captured using the Essential Meta-Model.

I will cover both the capability of the tool and briefly discuss the meta-model a bit later.

Installation and Stability

Installation: Installation of Essential is not a push button or click through a wizard exercise. There are a precise series of steps that must be followed and prerequisite software that must be installed for the tool to work. That said, nothing about the process is hard and it is very well documented on the website. For the class of user for which this type of tool seems destined it should present no issue. My install took about an hour – but I did read and follow the instructions to the letter and was very slow and deliberate to ensure I gave the tool a fair evaluation that would not be colored by a bad install.

Prerequisite software includes:

- Java Runtime Environment 1.5 or above
- Protégé Ontology Editor 3.4 RC1
- Apache Tomcat 5.5 or above
- For multi-user configurations
- a JDBC-compliant RDBMS is also recommended

Stability: The distributors of Essential Architecture Manager built the tools on top of proven technology and it shows, in my time evaluating Essential I had no system failures or unexpected behavior. This is certainly notable for both free software and a version 1.0 product.

Capability and Use

Overall the capability of Essential Architecture Manager can be stated as the total of the capabilities provided by the other tools on which it is based as well as how it has used those tools, and implemented extensions, to support EA efforts.

Essential Architecture Manager is divided into two basic components:

- Essential Modeler, providing support for capturing and maintaining the enterprise architecture model
- Essential Viewer, responsible for generating reports that allow users to view and analyze the enterprise architecture model.

Since I cannot really word it any better than the provider, a slightly paraphrased and U.K to U.S. spelling adjusted description of each component follows:

The Essential Modeler is based on is the Protégé Ontology Editor and Knowledge Repository (optionally supported by an RDBMS). By using Protégé to define an ontology that represents the Essential Meta-Model and creating a number of custom-built Protégé extensions, the Essential Modeler provides a primarily form-based means of capturing, managing and sharing an enterprise architecture model.

The Essential Viewer is a java-based web application that runs on any standard Java server platform. It provides a flexible and extensible means of generating views on the model captured using the Essential Modeler. A number of standard reports are provided by default, however, the Essential Viewer is explicitly designed to allow organizations to define and publish custom views and reports to meet their individual needs.

The phrase in the above descriptions to focus on for the moment is “primarily form-based”. This is a different approach from most other “EA” tools that seem to focus more on the reports or pictures than actual architecture. That approach will likely limit the tools acceptance and user community but those of us who have been practicing EA or the related disciplines for a number of years will appreciate the approach as a valuable one.

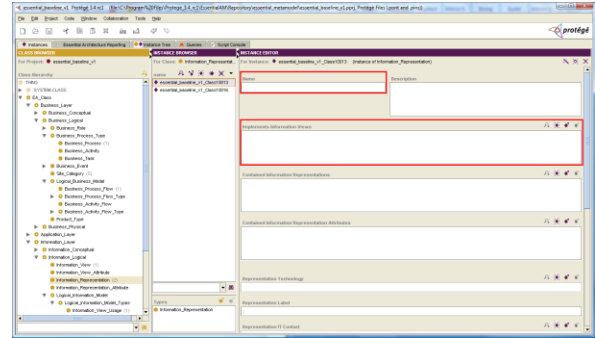


Figure 1. Form-based Capture of Data

Capture of the EA data is straight-forward and simple. There are multiple different types of EA Classes as defined by the Essential Meta-model and the user creates instances of those classes to populate their EA data. Where fields of a particular EA Class are required the tool makes this obvious with red highlights around the field (as seen above). Where there are fields that capture related instances of another EA Class then user has the option of creating new instances of the related type or selecting from the existing instances.

At this point it is worth noting that the tool is not spending a lot of time or effort hiding the meta-model from you like some tools do. The Essential Modeler captures the class and instance data simply with without a lot of User Interface overhead associate with many of the for-profit commercial tools.

You might have noticed from the language that “Class” and “Instance” were used in the description and it is the language of the tool itself one must be comfortable with to use the tool.

The Modeler is primarily form-based but not exclusively so. Some EA data is best and most efficiently captured graphically and the modeler has made rudimentary graphical tools available where needed. One example of this is the business process model.

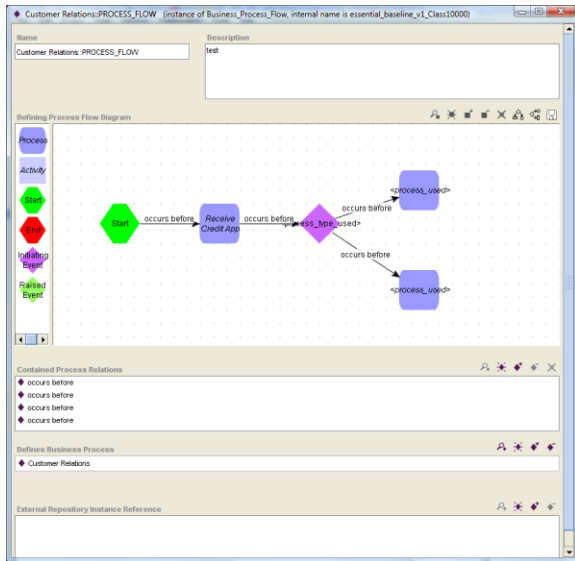


Figure 2. Example Diagram

The graphical tools are simple and easy to use and have some useful features such as auto-layout algorithms that can be run at the click of a button to straighten out any hard to read diagrams. For those primarily concerned with pretty diagrams fit for framing, this is not the tool, but for the rest of us that plan to use the data to make decisions and possibly export the data to other tools for presentation purposes the diagramming capability of the Essential Modeler should do nicely.

I have to say that after so many years of using “modeling” tools that capture so much of their data in diagram form I found several things to be true of the Essential Modeler.

- 1) I could capture a lot more data, faster and of better quality than traditional modeling tools
- 2) I spend zero time manipulating lines, box size, color, etc.
- 3) I knew when my example was built just exactly how the data points were connected and could easily see the impacts a change in one area would have on another. In tradition modeling tools these connections are often there but also often hidden behind complex diagrams and edit dialogs.

Bottom line, with the Essential Modeler an EA practitioner should feel more connected to the data and thus the EA can accomplish a key capability – to empower decisions.

Now, before I sound entirely too positive let me mention one thing that did present a challenge as I worked through my example architecture. My internal meta-model is different than that implemented by the Essential Modeler; appropriately named the Essential Meta-Model.

No big deal, but it did cause an adjustment of some of my expected data entry and scenarios. One can argue all day about the good or bad qualities and capabilities of a given meta-model – and people frequently do just that in standards groups. Rather than have that debate in this forum I simply looked at their meta-model for completeness and appropriateness to the task at hand – capturing EA data and relationships. In my opinion the model is quite sufficient to do just that. I will say a bit more on the Meta-Model below in relation to framework support. You can read more about the meta-model at:

<http://www.enterprise-architecture.org/documentation/doc-meta-model>

Types of Models Supported

The Essential Modeler supports the capture of several different types (“layers”) of EA data: Business, Application, Information and Technology.

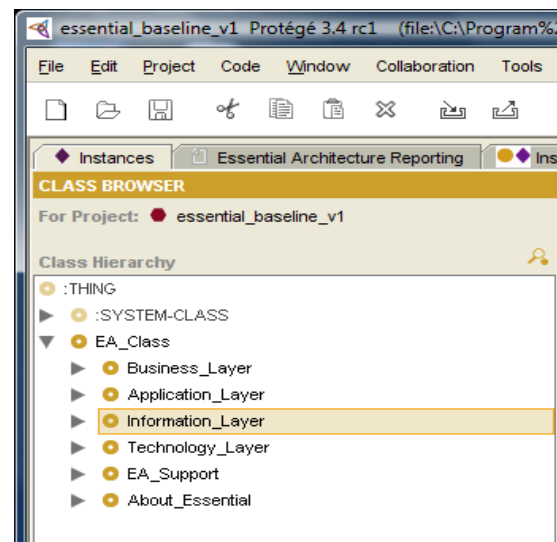


Figure 3. Supported Model Types

Each of these layers is further divided into Conceptual, Logical and Physical sub-layers.

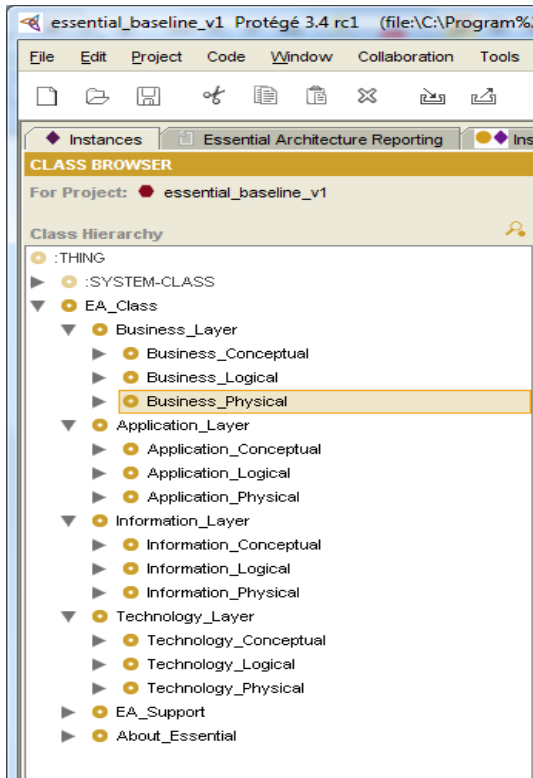


Figure 4. Sub-Layers

Once you select Conceptual, Logical or Physical then you begin to create specific instances of specific classes for the selected layer. Of course since this is an Enterprise Architecture tool any given layer will necessarily create or use artifacts from other layers, but the metaphor of layers is useful for picking a starting or focus point.

Bottom line is, the tool supports the capture of the data one expects to capture in an EA but does not necessarily support the meta-model of any given model type (e.g., UML or BPMN). Therefore, if your EA development methodology requires your architecture artifacts to be compliant to those standards then the Essential Modeler may be the wrong tool for your effort.

Reporting and Analysis

The other component of the Essential Architecture Manager is the Essential Viewer. The viewer is the mechanism stakeholders of the EA would use to explore and analyze the data.

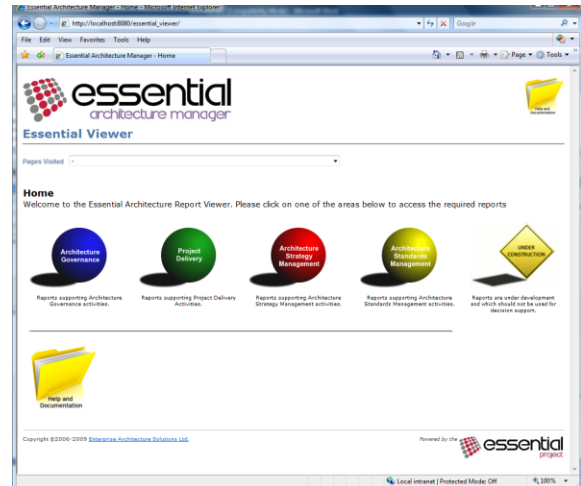


Figure 5. Default Main Viewer Page

This is not a new or unique concept, most commercial tools have some sort of “web reporting” capability. However rather than simply exporting the EA artifacts as they are in the modeler like some tools, when the developer of the EA publishes the EA data to the viewer the user of the viewer (accessed via a web browser) is presented with an easy to browse site with useful groupings of data, categories of questions that the EA can be leveraged to answer, and reports showing analysis of the EA data.

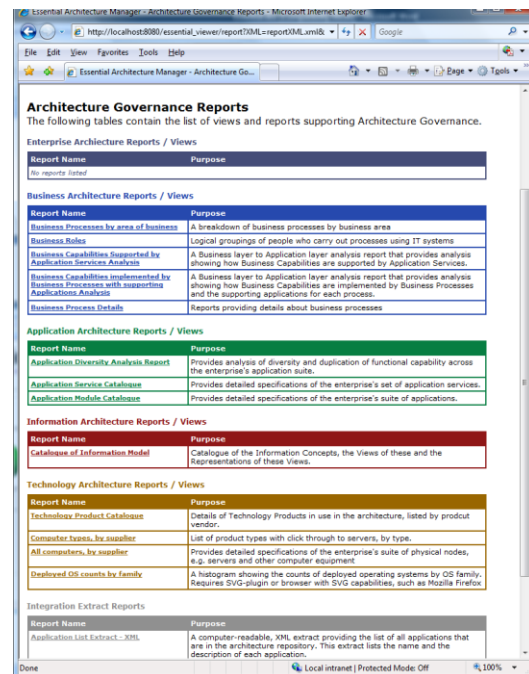


Figure 6. Example Viewer Screen

The Viewer can be customized both in appearance and content – allowing the users to

modify the look and feel to match corporate standards as well as allowing the provision of reports and analysis of key concern to the EA stakeholders.

Another mechanism of reporting is an ad-hoc query capability built into the modeler. This is a tool the architects would use to explore and validate their data vs. something that would be exposed to stakeholders.

As a final note on analysis; no simulation or costing capabilities exist to be run against the data within the modeler or viewer.

EA Framework Support

The mindset of the Essential designers seems to match that of more experienced EA practitioners in that they realize real value is in the information about the enterprise and relationships of that information – not a box or a line on a diagram. The approach is that of separating the concerns of capturing, validating and analyzing the information from Reporting and Publishing.

Like any tool, Essential Architecture Manager is based on a specified Meta-model. The robustness of that model determines the capability of the tool. What this means for EA Framework support is that the user is left with the “mapping” exercise to establish that the Essential Meta-model upon which the Essential Modeler is based meets the requirements for data capture and relationships of the framework of choice. For a more general framework like the Zachman Framework it is relatively straightforward to establish that the Essential Meta-model covers most but not all of the cells of the framework – however since there is no single meta-model for the Zachman Framework one can argue the nuances. In the case of DoDAF or MoDAF, where there are specific meta-models, the “compliance” to the model – or not – can be more deterministic. The Essential Project web site describes the project in relation to frameworks as follows:

“The Essential Project is the collective name for a set of open source, enterprise architecture support tools that have been developed for use in conjunction with a variety of Enterprise Architecture approaches and frameworks (e.g. TOGAF, DoDAF, Zachman).”

Taking that statement at face value and adding in my capabilities review I can agree that the tool can be used in conjunction with nearly any approach or framework. If compliance to a given framework meta-model is required then the data captured may need to be transferred to another tool at some point in the architecture development process but the Essential Architecture Manager can still play a vital role in data collection and validation.

Customizability

The Essential Architecture Manager tools are themselves customizations of other tools – e.g., protégé. Customizability is a central theme to the toolset. That said, any customization will resemble a development effort vs. some of the more graphical and wizard driven customization capabilities of other tools reviewed in this column. The types of customization include the forms used by the modeler for data collection and the reports used by the viewer for presenting that data to stakeholders.

Documentation

The website for the Essential Project has many tutorials discussing how to use the modeler to capture data for each of the EA Class Layers as well as using and customizing the Viewer. There is also documentation of the Essential Meta-Model. There is quite a bit of nice documentation for a free tool.

Conclusion

Free has its price – for instance, at the bottom of the download page is the following, important note regarding tool support:

“This is a community project and, as such is not supported with any formal SLA. Any questions or problems can be raised through our Essential Forums where we will do our best to provide assistance.”

However, if that support model does not bother you, and you are looking for a tool that does precisely what the name implies – managing and publishing the essential elements of an Enterprise Architecture – then the Essential Architecture Manager is a great (and certainly cost effective) tool to look at for accomplishing many of your EA data capture and decision support needs.

Quick Scorecard: (0-4)

3	Overall Ease of Use
2	Coverage of EA Modeling Needs
1	Adherence to Model Standards
3	Automation of Model Build/Edit
2	Appearance and Readability of Models
4	Use of Model Data Internally
3	Use of Model Data Externally (interfaces)
2	Reports Included
2	Reporting Writing Capability
4	Stability
2	Use on a Large EA Program
3	Customizability
31	Total (out of 48)

0=no applicability; 1=Poor; 2=Fair; 3=Good; 4=Excellent

System Requirements

- Operating Systems: Windows, Mac OS X, Linux, Unix
- Prerequisite software previously mentioned
- No other specific memory or processor requirements found or encountered

About Essential Project

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