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Feature

Architect's Spotlight: *Pallab Saha* 4

Articles

Review of the iGraphx Flowcharter Documentation Tool 7
Ian Komorowski

Making the Business Case for Enterprise Architecture 11
Scott Lyzenski

Towards Intelligent Discovery of Enterprise Architecture Services 26
Nico Brehm, Tariq Mahmoud, Jorge Marx Gómez, and Ammar Memari

Case Study

A Practical Guide to Enterprise Information Architecture 37
Michele Smith

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Ian Komorowski

This month's featured tool review is **iGrafx® Flowcharter™/Process™/Process™ for Six Sigma 2007**.

The iGrafx® client tool suite fits into what this column has termed as a precision tool. They are primarily focused on business process modeling, analysis, and re-engineering. While at first blush this may seem like a component of an overall enterprise architecture, process models, when looking at systems in a holistic manner, can include people, process, and IT or other systems that automate the process. Additionally, within an architecture development effort, if the business owners are driving the development of the EA, they may normally gravitate to business process. Therefore, an architect may find the best way to begin the gathering of data that will populate an architecture is to begin with the development of process models.

Overall Architecture

The client tools that iGrafx® offers come in three versions: Flowcharter™, Process™, and Process for Six Sigma™. While Flowcharter™ is the basic version of the tool, it does provide all of the modeling notations and capabilities that are available within the suite. As one adds features by upgrading to Process™, process model simulation and analysis capabilities are included. Process for Six Sigma™ provides interfaces with Minitab® and JMP®, statistical analysis tools that are often utilized by Six Sigma/Lean Six Sigma practitioners.

An iGrafx Viewer is available (at no cost) and is in essence the client software downloaded without a license key. The Enterprise Modeler™ (client), Process Central™ (server), and Enterprise Central™ (server) are the repository and multi-user collaboration components of the tool suite, and were not reviewed for this article.

Installation

The installation of iGrafx® was very easy and happened in a quick and straightforward manner. iGrafx® will create a default folder on the C: drive for storage of installation files and

the license. If you would prefer to place these in a different location, pay attention to the installation dialogs and browse to your chosen location when prompted.

I reviewed iGrafx® on a laptop with 2GB of RAM and a 2.4 GHz processor. The minimum system requirements specified by iGrafx® fall within the current normal range (350 MHz Pentium II processor or above, Windows 2000 and above, 256 MB RAM, Internet Explorer 5.01/Mozilla Firefox 1.0 or above).

There are specific requirements for other tools (such as Microsoft Office) when dealing with imports/exports or reporting, but they also fall within the normal range (Office 2000 or above, Acrobat 7.0 or above, etc).

Setup

The iGrafx® client tools create an .igx file for the storage of their model data. Like any other file type, they can be stored, moved, or copied to the location of the user's choice. A single .igx file can contain multiple diagrams of multiple types, and there is an explorer window on the left that allows for navigation between diagrams. In order for different diagram types and/or objects to be linked together, they must be contained within the same .igx file. While iGrafx® does offer an 'Undo' function similar to Microsoft Office, version control must be manually maintained by the user at the .igx file level if only the client tool is being used.

Standards Support

The iGrafx® client tools support a number of existing standards. The most obvious is Six Sigma and its supporting notations, as one version of the tool set is directly marketed to this community. The tools also support a number of process modeling and business function notations, such as BPMN (Business Process Modeling Notation) and IDEF0 (as an add-on). Additionally, there are a number of software modeling specific notations in what iGrafx® calls the Public Media Collections, including UML (Unified Modeling Language), ISO 5807 (an information processing modeling standard,

published 1985) and various object oriented software modeling standards (Booch, Martin, Yourdon, etc).

Integration/Interface Capability

Flowcharter™, Process™, and Process for Six Sigma™ have a variety of integration and interface capabilities. Common to all of the tools is a .csv import export. Not only is this an option for tool interchange, but it does allow for mass updates or development of objects, especially from subject matter experts who may only have access to Microsoft Excel. Also common to all three tools are XML interchange, BPEL (added cost) and XPD (used for workflow engines) interfaces.

Additionally, there is an easy to use Visio import that converts Visio symbols to iGrafx® process objects. If a standard notation is used, iGrafx® seems to do a pretty good job of matching up the objects types (process, gateway, document, etc).

Unique to Process for Six Sigma™ are two interfaces to statistical analysis tools, Minitab™ and JMP™. These are designed for the in depth analysis commonly done within the Six Sigma/Lean Six Sigma communities. I did not get a chance to test either of these interfaces.

Reporting and Analysis Capability

The iGrafx® client tools have a number of options for making the models developed in the tool available for others to use. There is a simple set of publishing buttons under the file menu that allow the user to export to HTML, Microsoft Word, Microsoft PowerPoint, and Adobe Acrobat. Both Microsoft options create a file in which each diagram is a single .emf file. The HTML option offers a little more functionality, in that any notes that are included with an object in a particular diagram are listed at the bottom of the HTML report, and when the associated object is double clicked, the screen will refocus on the note. Also included at the bottom of the HTML report is a hyperlinked list of the related parent-child diagrams that can be navigated to by either double clicking on the

hyperlink or by double clicking on the parent object. The PDF option is the cleanest looking. All diagrams are listed on the left in the bookmarks, parent-child linkages are navigated by double clicking on the parent object, and objects that have notes, when rolled over with the mouse, display the text in a floating dialog, similar to the way the iGrafx® diagrams do in their native format.

The Process™ and Process for Six Sigma™ tools both have more robust analytic capabilities focused on process model simulation and what if analysis. Assuming that the properties and attributes of the model objects have been captured to the level of detail necessary to run the simulations (time, resources, probabilities at decision points, etc) simulations can be run directly from the models, and the results can be easily compiled, compared, and analyzed. While the models that I developed did not include enough information to run a simulation, I did observe a live demo that worked through the determination of the best department to place a single resource (person) to optimize production of widgets within or below a certain time period.

Overall Impressions

My initial reaction was very positive regarding the ease of use of the tool. Within a few minutes of installation, I was able to easily navigate the tool and create robust diagrams.

While I did not have the opportunity to develop diagrams in all of the notations, I did work extensively with a few, including SIPOC (Supplier, Input, Process, Output/Customer-a Six Sigma specific diagram) and BPMN (Business Process Modeling Notation). Line connections were almost automatic (inputs and outputs even 'heal' themselves when an object is removed from a sequence!) and there is an option to auto-maintain off page connectors when working in a diagram space that covers multiple pages. Additionally, when notation rules were broken or not followed, an obvious visual indicator appeared in the area of the error. An example is shown in Figure 1 on the next page.

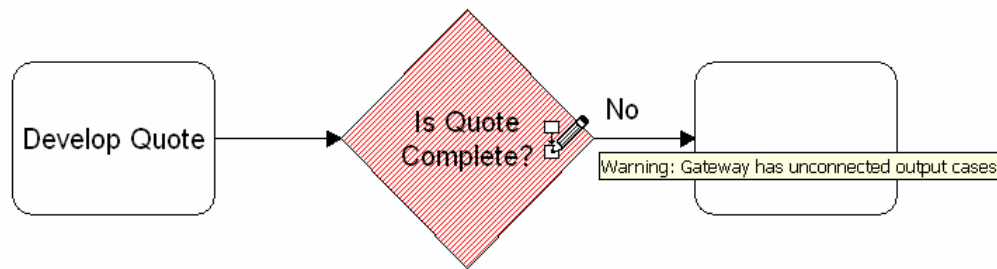


Figure 1: Example iGrafx Rules Check

To quote David Rice from the KBSI AIØ Win® 7.0 toolbox feature (2006):

“In the modeling tool space there are two classes of tool. Tools aid in your thinking and analysis process and those that presume you are done with that and need to document your results. Most modeling tools fall in the latter category.” The structure and purpose of the iGrafx® client tools seems to be for the former, and the tool really does seem to stay out of the way when one is thinking about and developing process models.

I did notice a few quirks in the diagrams. When trying to link a BPMN ‘data object’ to a BPMN ‘task’, the ‘data association’ line did not automatically appear. It took a bit of digging to discover that the default option for ‘data association’ lines is to be hidden, and one must go to the View>Hidden Lines button to get them to appear. Also, on SIPOC diagrams, there is only one object type available (‘Process’), and as I was in modeling tool thought mode (as opposed to PowerPoint or Visio thought mode) it was not immediately intuitive that the standard text button on the tool bar was to be used to enter information within the Supplier/Input/Output/Customer columns-I was looking for an object to use.

Although the modeling interface was pleasant to use, there are two things that I discovered in the client tools that I have issue with. The first is related to the properties captured for objects created in the diagrams. While the out of the box set of properties is generally very comprehensive, there is no default property field for a free text definition of the object. A modeler must either create a custom property, or capture that information in the notes section (which then displays on the diagram when the mouse rolls over the object). While these are both fairly

easy work-arounds, they do allow users to in essence create different meta-models, and may reduce the ability to easily exchange information between models.

The second issue is a more significant-fundamentally, there is no object repository that can be accessed by the modeler. Therefore, if the modeler wants to reuse a process created in one diagram in another diagram, the object has to be copied and pasted. While this is somewhat straightforward in simple models, there is always the risk with copy/paste that the proper object is not reused, or if at a later date some of the object properties change, then they have to be manually changed in all instances of the object.

It does turn out that the Process Central™ and Enterprise Central™ tools do have a default property field for definitions, and have reusable objects, but they are a significant investment in both time and money. Not having the reusable objects within in the Flowcharter™, Process™ or Process for Six Sigma™ drops them back down to the Visio type of tool from the process modeling/EA perspective, even if Process™ and Process for Six Sigma™ do have better simulation capabilities and statistical interfaces than Visio.

While the marketing pitch from the company and the implementations that I have seen of the tool primarily focus on business process modeling or re-engineering, the client tools can certainly be used in a broader enterprise architecture sense, with a little bit of care. iGrafx® does not support specific enterprise architecture frameworks (like DoDAF or Zachman) out of the box, but many of the notations that are needed for EA are native to the tool. With a little bit of forethought, a user that needs to develop an EA for a small to mid-

size company or organization could easily structure the use of the tool to meet their needs.

About iGrafx®

iGrafx® has been established since 1986 in one form or another. The company is currently run as a separate division of Corel Inc., a publically traded company based in Ottawa Canada (also owners of WordPerfect® and WinZip®). Corel was relisted on the NASDAQ (initial public offering April, 2006) after a venture capital buyout in 2003. There are 40 employees in the iGrafx® division, but approximately 1300 globally in Corel. Corel seems to be relatively stable right now, although Vector Capital remains a large shareholder.

iGrafx® advertises a wide customer base, including both commercial and government users. They are an approved vendor for the DoD through the Enterprise Software Initiative and are heavily utilized by several Navy organizations in their Lean Six Sigma efforts. You can contact the company at:

iGrafx, a division of Corel, Inc.
7585 SW Mohawk
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Phone: (503) 692-8162
Fax: (503) 691-2451

Tool Cost

The Flowcharter™ version of the tool seems to be roughly equivalent in price to modeling tools like Microsoft Visio, and the Process™ and Process for Six Sigma™ fall into the more robust modeling tool category, like Telelogic System

Architect (Telelogic is now an IBM™ Company). The Enterprise Central™ and its options are equivalent to other tools in the enterprise repository class. iGrafx™ also offers a one year academic license for each of it's client tools as an option.

Maintenance agreements on the client tools run in a two year cycle, and are approximately 18% of the cost of the tool per year.

While I did find the client tools easy to use and understand with no training, an organization should consider including the cost of training provided by iGrafx®. This could be valuable to organizations that are implementing the enterprise version of the tool and/or have large numbers of users who are new to using modeling tools.

AUTHOR BIOGRAPHY

Ian Komorowski is the Manager of Federal Architecture Requirements at WBB Consulting®, a technical management and consulting firm (www.wbbinc.com). Ian has a wide array of experience in developing architectures for commercial and government customers. Ian has also developed and taught a variety of classes on enterprise architecture among which include: tool neutral DoD Architecture Framework, Telelogic System Architect DoDAF ABM, and Department of Health and Human Services EA Modeling (based on a custom HHS framework implemented in Metis) classes. He can be reached at 703-448-6081 x265 or ikomorowski@wbbinc.com.