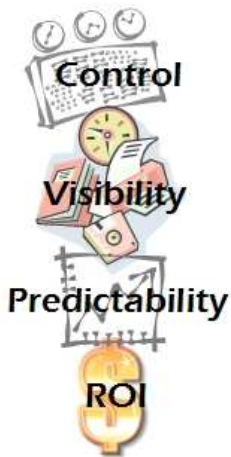


Guide to Building Process Flows In Ingenuus

Building Flows in Ingenuus

Guide

**Ingenuus
Active Packet
Technology
Provides:**



Introduction

The Ingenuus software is business process management software [BPM]. Unlike other BPM software, Ingenuus is configurable not coded. This guide has been created to help you prepare to configure the Ingenuus software.

There are two different approaches that people use when trying to automate their processes - conduct a big process re-engineering project or copy the manual process verbatim. Based on our experience, we recommend that you begin with a single process and don't change it except to automate steps where you can. You will be creating a flow that you can test and roll out to the rest of the company. It is important to note that after the flow is in the system it can be revised and improved easily, it doesn't have to be perfect for the initial release.

Select people to be involved in the initial testing. If people feel some ownership in the implementation of the new software, they will be more positive. If you have a nay-sayer amongst the user community, get them involved early.

The Process

Document the process that you intend to use. Run this past the user community to determine if this is the actual process. [The Ingenuus flow builder is similar to Visio, so we recommend that your documentation appear in a similar manner.] We would expect to see the tasks that are to be completed in this process in the order that they are expected to be completed.

We expect the process to show tasks in a rectangle and that diamond boxes will reflect routing based on conditions set in the previous box. If yes, where does it go? If no, where does it go? Do some items need to be completed at the same time? If so, then connectors must reflect that.

Converting the Process to a Flow

A process in Visio can be compared to a 2 dimensional drawing - it shows a list of tasks that make up a process. However, a process is really more complex than that. We really need to reflect who will be performing a task and we should reflect the information that they need to perform the task as well as the information that they will create as a result of performing that task. At an even deeper level, where will we find that information and where will we store what we created.

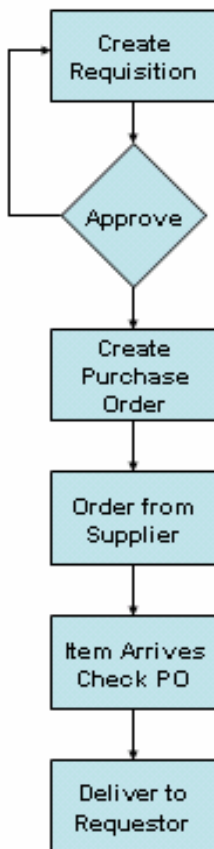
A Flow in Ingenuus looks very much like a Visio diagram with the added ability to build business rules for each step in the process flow. It will greatly speed up your implementation if you know how you would like to set up these rules.

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A Typical Process

This is the way most people will diagram their purchase order process. It is a single path with a task identified for each step in each box.

Purchase Order Process

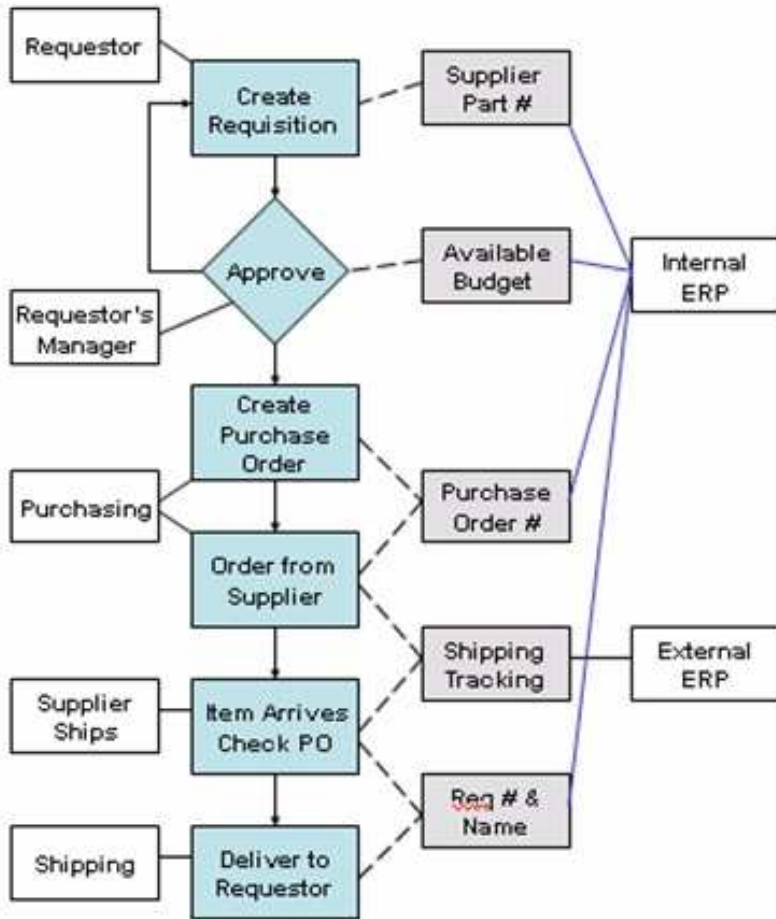


However, a business process actually has a few more dimensions which include:

- ◇ Who is performing the particular task or tasks?
- ◇ What information do they need to perform the task or tasks?
- ◇ What information will they create as a result of performing the task or tasks?
- ◇ What are the data stores needed?

Guide

Purchase Order Process



This is what most processes really look like.

You identify the steps of your process. As in reality, Ingenuus does not require a step for each task. [Many tasks may be performed within a single step.] Next, you will determine who will be performing the tasks.

Is there information that they could have that would help them perform their tasks? Where is that information? Are they generating information as a result of performing their tasks? Where does that information need to be published? These questions determine the need for integration.

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Developing Process Flows - Creating Active Packets

Ingenuus has developed the notion of Active Packets. These packets actually move through your defined process. You control where these packets travel. You can provide alternative paths based on conditional logic. You can influence how long the trip will take. You determine what the packet looks like [user interface]. You have visibility into the 'flight plan' the packet will take. You can see where a packet is at any moment in time and you can see where it has been [audit trail].

High Level View of Building Flows

Steps

Begin with identifying the steps the packet will take. For each step, determine who is responsible for completing that step. What tasks will they be performing? Do they need information in order to perform their task[s]?

User Interface

What information will the user need to perform their task? What information will they create as a result of performing their task? What attributes do we want to capture? We use additional attributes to more easily find information or to create meaningful reports. You will define what the packet looks like.

Business Rules

Tasks may be assigned based on field entries. Active packets may be routed based on logic created in a pull down list. You may determine if a field entry is required or not. Access controls are created at each step in a process. Process owners may declare a length of time that a process should take and build an escalation table. A completed step may generate a notification. A completed step could trigger a program to run.

A More Detailed View follows...

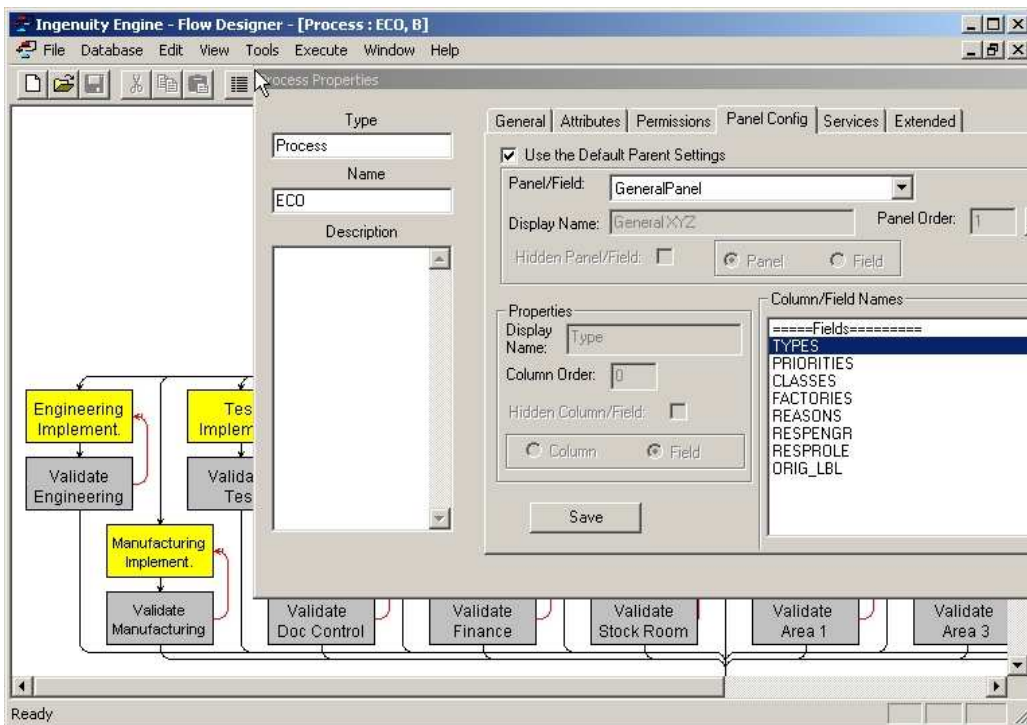
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The User Interface & Business Rules

Now that you have diagrammed your process, it is time to identify the rules. There are rules for the overall process flow as well as for each step in the process flow. These rules are configured in process properties.

Process Properties

There are rules and user interface properties that you set for the entire flow and for individual steps within the entire flow. Clicking on 'Process Property' will pop up a window for configuring process properties. This window consists of 8 tabs that allow you to configure not only the process flow but the user interface as well.



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The Entire Flow

There is a 'Process Property' window for the entire process. This allows you to begin configuring the user interface for this particular flow as well as define the services that will be used throughout the entire flow.

General Tab

This is where you can define the type of flow and get information about the flow (creation date, number of steps, etc.). It is here that you define a name space (category) for grouping multiple flows; customers frequently do this by department (Engineering, HR, etc.). If this flow changes items or documents there are also two other options to set here: Temporary/Permanent – is this change only good for a time frame (like a Deviation) or is it permanent, and Order/Request – is this an actual change packet or is it a request for someone (in another flow) to make the change.

Attributes Tab

This is where you define what values will be available for the built-in select fields on the packet.

Permissions Tab

Here you define the permissions that people have for these types of packets. Note these are permissions that people will have 'outside' of the workflow (for instance from a query). When people open a packet from their inbox, they get permissions as defined for that task, regardless of their permissions here. Only Administrators should get the permission to modify packets here.

Panel Config Tab

Here is where the built-in Panels (Tabs) and their fields can be configured. Any field in here can be hidden or renamed.

Services

This is where you define the services that will be used within this flow. A service sets the permissions of what a user can view, change and have validated within the step.

Extended

This is where you define extended (user defined) fields on the packet. There is a panel where you can configure up to 100 of your own fields (strings, text boxes, selection lists, etc.) per flow.

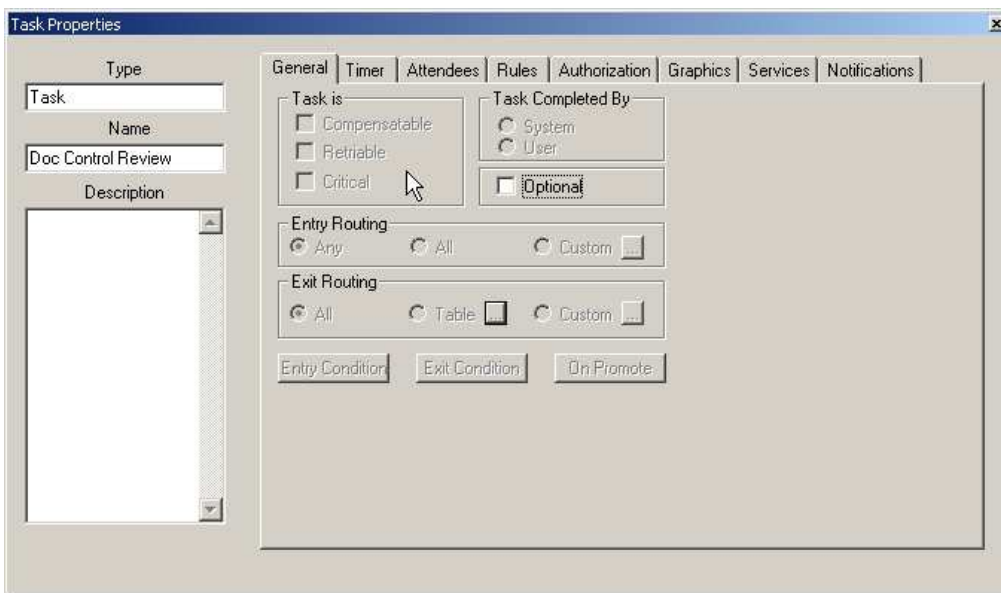
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Individual Flow Steps

There is a 'Process Property' window for each block in your process flow diagram. This allows you to configure the precise rules for each step in the process. As an example, someone may be able to edit a document in step one but no longer can edit the document in subsequent steps. The user interface may also be configured for each step in the flow.

Some things to think about before beginning the configuration task...

- ◇ Routing is automatic so the logic must be created. The system needs to know who is to perform the next task.
- ◇ Use roles whenever possible. It will make it easier to maintain the system.
- ◇ The system is set up to create look up tables. As an example: If the selection of an approver depends on whether they work on a particular product line, then this can be set up in advance.
- ◇ The system can 'link' processes. As an example: If multiple chip designs are to be used on a single fab, you could have multiple instances of a design process feed a fab process.

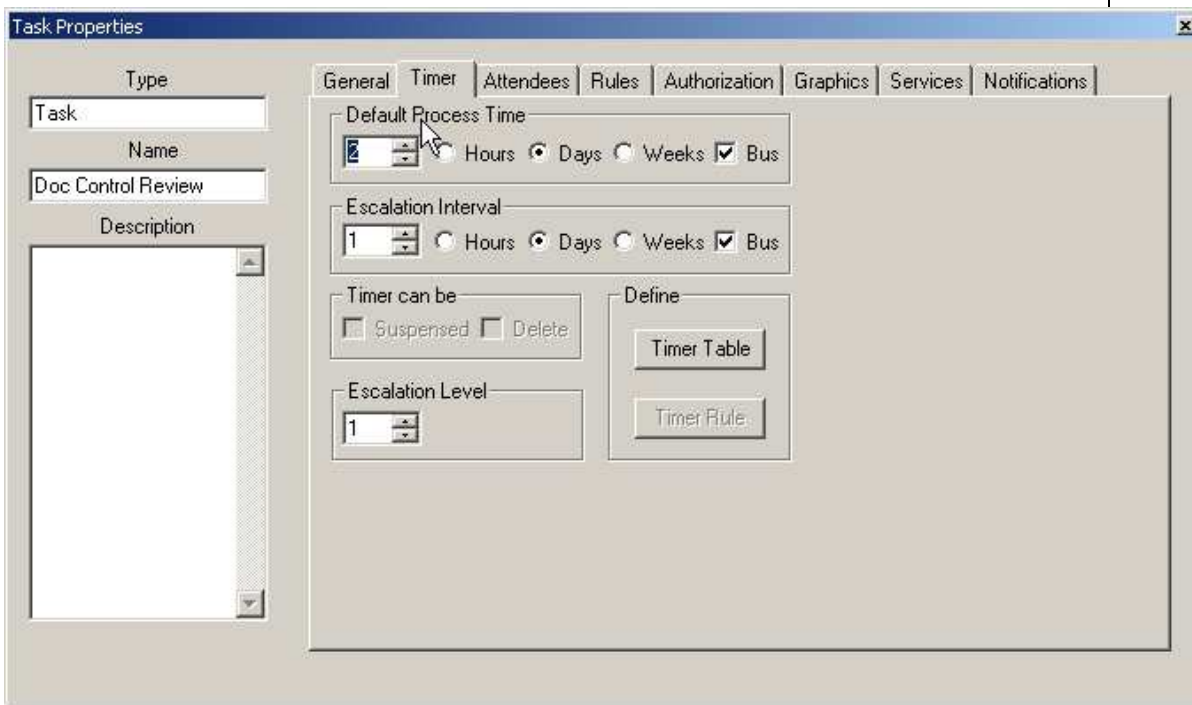


Guide

Process Property tabs defined

General Tab [diagram on the previous page]

Name the task[s] to be performed. This is where you define the routing for the step. You can define entry conditions and exit conditions which are written java to enable hooks to easily do actions outside of Ingenuus.



The screenshot shows the 'Task Properties' dialog box with the 'Timer' tab selected. The dialog has a title bar 'Task Properties' and a close button. On the left, there are fields for 'Type' (set to 'Task'), 'Name' (set to 'Doc Control Review'), and 'Description' (empty). The main area contains several sections: 'Default Process Time' with a spinner set to '2' and radio buttons for 'Hours', 'Days', 'Weeks', and 'Bus' (checked); 'Escalation Interval' with a spinner set to '1' and radio buttons for 'Hours', 'Days', 'Weeks', and 'Bus' (checked); 'Timer can be' with checkboxes for 'Suspended' and 'Delete'; 'Escalation Level' with a spinner set to '1'; and a 'Define' section with buttons for 'Timer Table' and 'Timer Rule'.

Timer Tab

Declare the time allowed for this process step to be completed. Define an escalation interval – how long can this sit before it gets escalated? Declare the escalation level – how far up the management ladder do escalations go?

Guide

Process Property tabs defined

Attendees Tab

Name the attendees for this step – these people can be named individually or by role (group of users). A role is recommended for administration, even for a single user, if a person changes you can just adjust the user-role assignments, you do not need to worry about going through the flows and changing them individually. If a single person is defined to do this task, once the first person picks up the task, it is removed from the inbox of all of the rest. You can declare that this step is to be done by more than one individual. Also you can define the attendee(s) using a table based on a field on the packet or have the attendee(s) set by another task earlier in the flow.

The screenshot shows the 'Task Properties' dialog box with the 'Attendees' tab selected. The dialog has several sections:

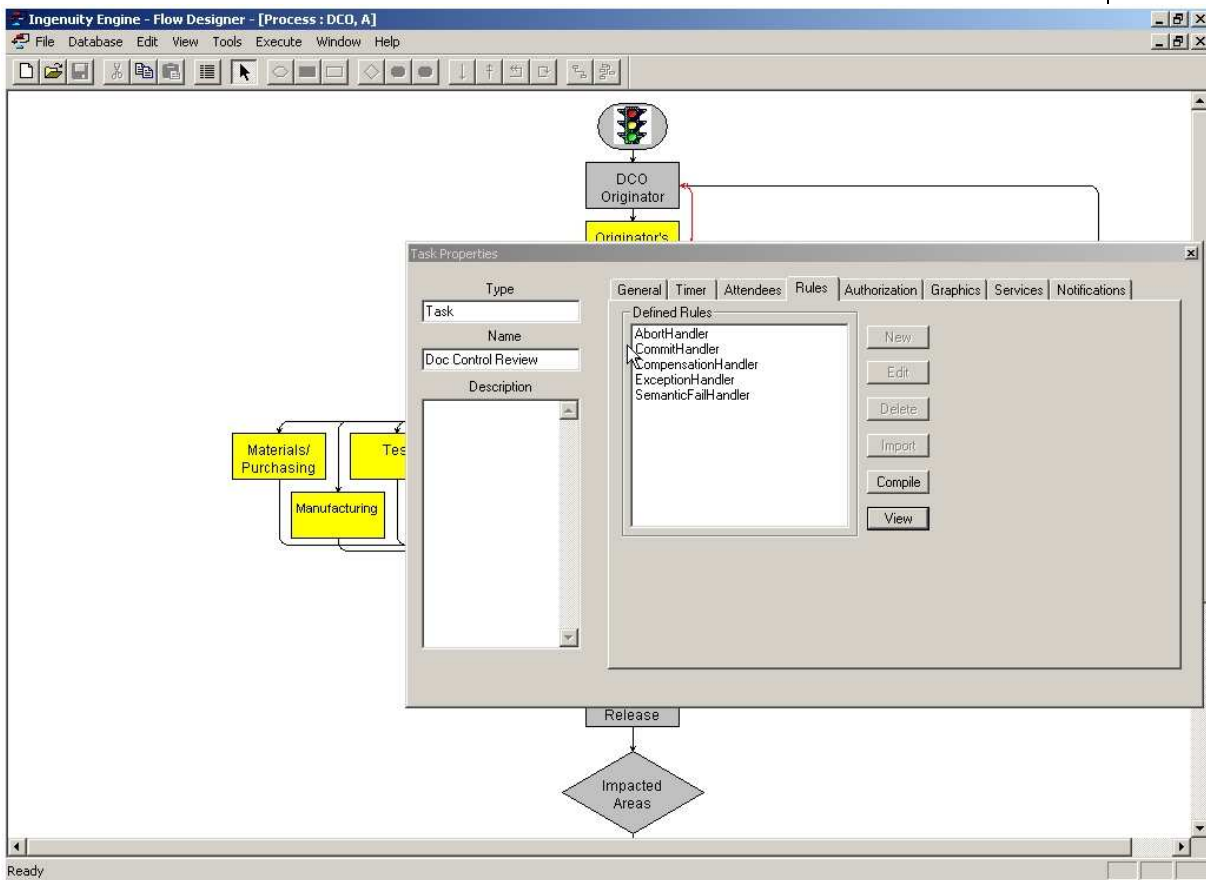
- General Information:** Type (Task), Name (Doc Control Review), and Description (empty text area).
- Attendees List:** A list containing 'Role: Doc Control'.
- Defined Users:** A list containing ADMIN, afinnegan, aumphress, and awachter.
- Defined Roles:** A list containing Administrators, Area 1, Area 2, and Area 3.
- Configuration:** 'Actual Attendee' set to 1, 'All' checkbox unchecked, 'Reset Attendee by' dropdown menu, 'Must Be Set' checkbox unchecked, and 'Reset Task Assignment' checkbox unchecked.

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Process Property tabs defined

Rules Tab

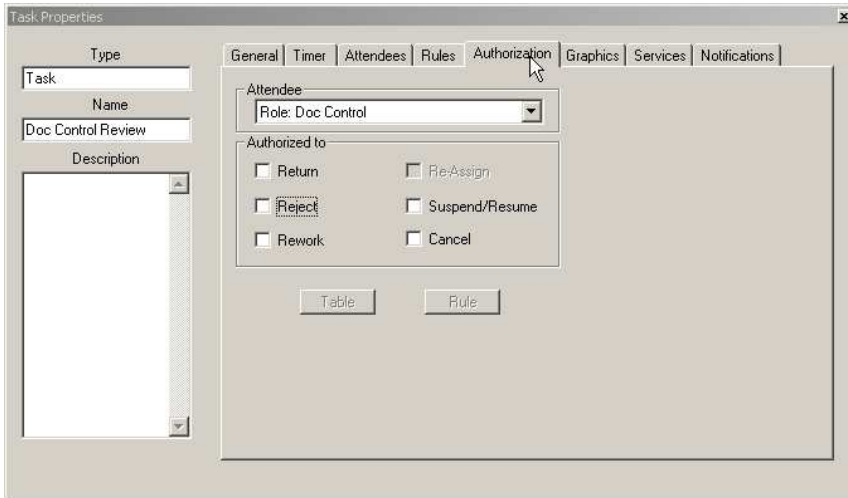
This gives you some functionality to do more things with Java hooks than are defined in Entry/Exit Conditions and the On Promote in the General Tab. Please see the Admin Guide for more details.



Guide

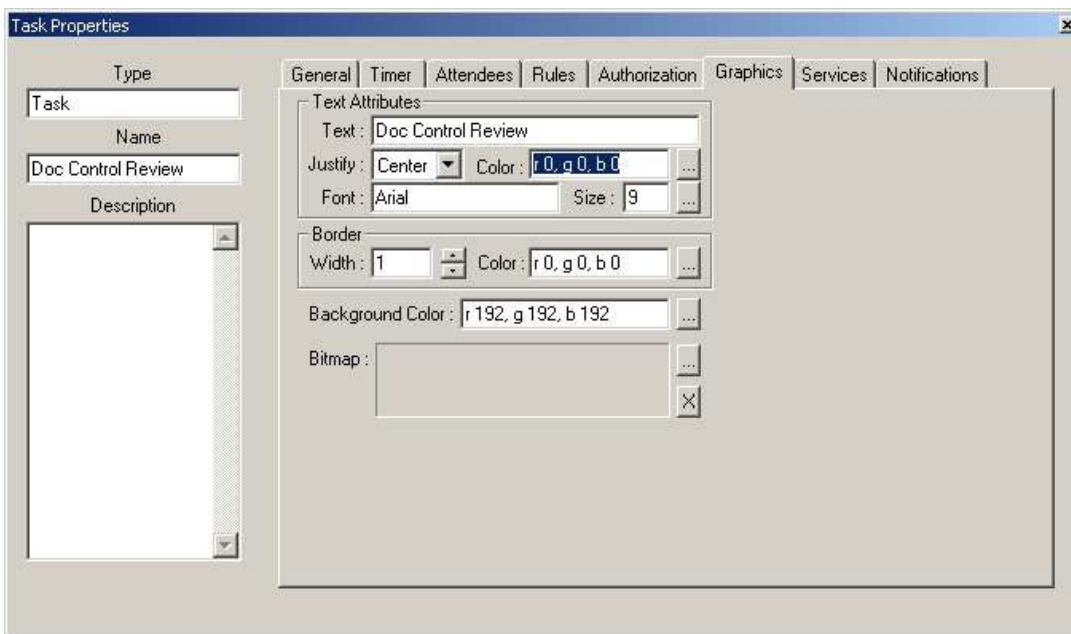
Process Property tabs defined

Authorization Tab [Currently Unused]



Graphics Tab

This allows you to configure the task appearance in the flowchart. Note: if you change the task name and it does not change on the flowchart, you will need to change the text attributes field on this tab.



Guide

Process Property tabs defined

Services Tab

Declare what services you wish to have performed at this particular step from a list that you will have created. A document or form doesn't need to move, this service could just be to perform some task and say that it is completed.

The screenshot shows the 'Task Properties' dialog box with the 'Services' tab selected. The dialog has several tabs: General, Timer, Attendees, Rules, Authorization, Graphics, Services, and Notifications. The 'Services' tab is active, showing a 'Default' dropdown menu set to 'Modify/Reject/Cancel DCO'. Below this is a list of services: 'Modify/Reject/Cancel DCO' (highlighted) and 'Set Participant'. There are 'Add' and 'Remove' buttons next to the list. At the bottom, there are four checkboxes: 'Optional' (unchecked), 'Complete by System' (unchecked), 'Must be completed by Service' (checked), and 'Has Process Selection List' (unchecked). The left side of the dialog has fields for 'Type' (set to 'Task'), 'Name' (set to 'Doc Control Review'), and 'Description' (empty).

Guide

Process Property tabs defined

Notifications Tab

This is where you may declare some logic. If a step is approved, then notify someone via Email for example. You will define the notification types like: escalation, normal, exception, etc. The delivery type can be Email or it could trigger a sub-routine.

The screenshot shows the 'Task Properties' dialog box with the 'Notifications' tab selected. The dialog has several tabs: General, Timer, Attendees, Rules, Authorization, Graphics, Services, and Notifications. The 'Notifications' tab contains the following elements:

- Type:** A text box containing 'Task'.
- Name:** A text box containing 'Doc Control Review'.
- Description:** A large empty text area.
- Notification Name:** A text box containing 'reject'.
- Notification Type:** A list box with three items: 'Escalation', 'Exception', and 'Normal'. 'Exception' is currently selected.
- Delivery Type:** A list box with one item: 'E-Mail'.
- Buttons:** 'Edit' and 'Remove' buttons are located below the list boxes.

After going through the flow training, you will see how easy it is to edit existing flows and/or create new ones. You will be able to see how your input has changed the user interface. You can re-enter these screens and easily make modifications.

Guide

Implementation Plan Overview

Most of the big Consulting Companies look at their projects in 4 main steps: Analysis, Design, Construction and Implementation.

Analysis

Look at your process and really try to understand it.

Design

Document your process. Start with a Visio style diagram and expand to the Business Rules style diagram. Gather all of the necessary information needed to configure the Ingenuus Software.

Construction

In the case of Ingenuus, you will be configuring rather than constructing [coding]. Configure your flow within Ingenuus. After your preliminary testing, it is time to roll it out to your identified test team. Make any changes necessary.

Implementation

Roll out the solution to the rest of your company. This will involve training and the creation of a user guide that maps your process. You will want a resource within your company that can answer user questions.

Other Processes

After you have rolled out the initial solution to your user community, it is time to add some new process flows. Ingenuus can manage any business process in your company.

Guide

Process Improvements

The following is a tried and true method for improving processes. You would be amazed at what you can learn by going through this process. HP used this to cut costs by an order of magnitude in their Roseville, CA plant.

Identify

Does a process really exist?

You must ask several people who will concur that a process exists.

Are there steps to follow and tasks to keep track of? Are these steps and tasks repeatable?

Document

If the process is real, you should be able to document it by writing down the steps and tasks.

Confirm that you have the process documented properly.

What happens when someone is sick? What happens when it is a rush?

Repeat

Prove that the process is real by attempting to repeat it.

If you can't repeat it every time, then you have documented it improperly.

Measure

Put metrics in place so that you can establish the norm.

Measure several times so that you know your metrics are right.

Measure several times so you know the average time.

Improve

Put in changes in place selectively. Remember, changes affect the entire process so make little ones at first.

Don't attempt to change it completely all at once.

Remember, people hate change.

Measure

If the metrics do not indicate a reduction in time or effort, then you didn't improve the process.

Test it more than once to confirm your measure.

Choose to go back or attempt a new improvement.



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