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KEG

Kinetic Data Customer Conference & User Group

February 24 – 25, 2014

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Advanced Task Engine

Doing Cool Stuff with Cool stuff!

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What we are going to learn today

- A bit about Sub-Trees and Recursion.
- Best Use Cases for Using Recursion.
- Building a Simple Service Item.
- Designing a Recursive Sub-Tree.
- Installing and Configuring a Task Handler from Community.
- Creating a reusable Sub-Tree and Incorporating it into a Recursive Loop.

Time Permitting:

- Review Task Engine Basics.

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What is Recursion?

- A way for a Sub-Tree to run indefinitely until some outside condition is met.
- A Sub-Tree creates another instance of itself to continue processing.
- The inputs for additional instances are the outputs from previous instances.
- Similar to a TV camera being turned on its own monitor.

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Best Use Cases for Recursion

- When you have an indefinite process. Different from a Loop where the number of iterations is known ahead of time, Recursion is open-ended.
- Examples:
  - Checking for data to be created.
  - Continuous Escalations.

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Sounds Great! Let's get started!

- Open http://matrix.kineticdata.com/kineticTask/AdminConsole
- Log in as Demo with no password.
- Select "Trees" from the left navigation.
- Select Source Root of "Kinetic Request".
- Click "New Tree".

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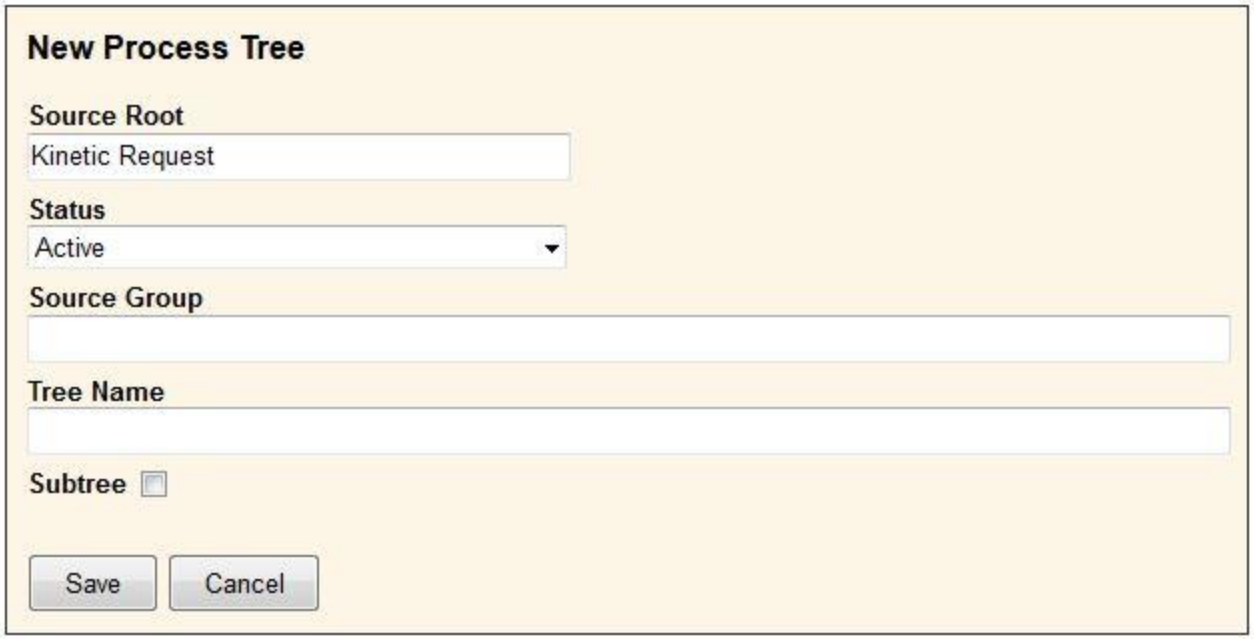
The Create Tree Dialog



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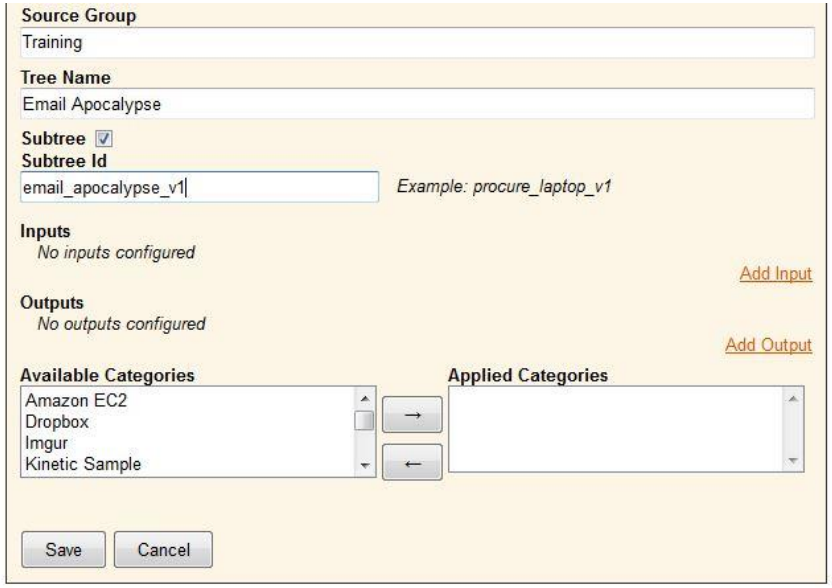
More Create Tree Dialog…

- Add a Source Group and Tree Name
- Check “Subtree”



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Even More Create Tree Dialog…

- Inputs for our Sub-Tree:
  - Original ID – so we can keep track of what Request started the process.
  - Recipient – the person on the receiving end of the Wrath of Escalation.
  - Stop Status – so we know when to show mercy.
  - Count – so we can keep track of how many times this has run.

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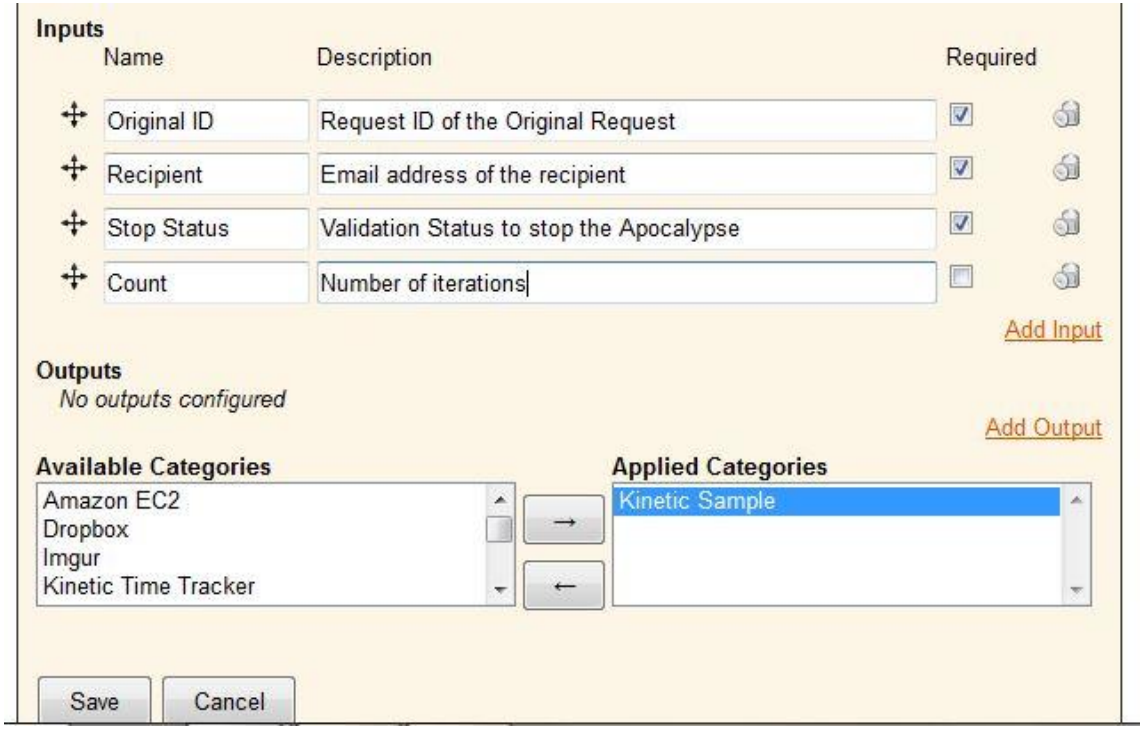
Yet even more Create Tree Dialog…*pant* *pant*



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Steps in our Sub-Tree

- Create a Wait node.
- Lookup the Validation Status of our original Request.
- If the Validation Status is not equal to our Stop Status
  - Create an Email.
  - Call our E-mail Apocalypse Tree again.
- Otherwise, End.

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Oh No! I don't have anything to do the Status Lookup! Whatever shall I do?

- Kinetic Community to the Rescue!
- Open http://community.kineticdata.com
- Select "Kinetic Task" from the left navigation.
- Select "Task Handlers".
- Oooh and Ahhh at the impressive array of pre-built handlers we've provided to you!
- Select the Remedy Generic Retrieve from the BMC Remedy handler group.

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Installing the Handler

- Download the remedy_generic_retrieve_v2 handler to your desktop.
- Open the Kinetic Task Admin Console.
- Select “Handlers” from the left navigation.
- Click the “Import Task Handler” link.
- Browse to the handler zip file.
- Import!

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Configuring the Handler

- Scroll to the “Remedy Generic Retrieve” handler and click the “Edit” icon.
- Configure the Task Infos:
  - Username: Demo
  - Password:
  - Server: matrix.kineticdata.com
- The other Infos can be left at defaults.
- Add to the Kinetic Sample category.
- Click the “Save” icon (the green checkmark).

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Great Chris…now can we build our tree?

- Add a Wait node to the Task Tree first.
  - This will help space out the executions of the Sub-Tree so it does not run constantly.
- Add a Remedy Generic Retrieve node.

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Building the Tree…continued.

- We will use the technique detailed in the related Article “Using Results from the Remedy Generic Retrieve Handler”.
- Add an Echo node with the following Code (adjusted for your Node Naming):

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Building the Tree some more…

- Add an Echo Node as a “pretend” Email Message Create.
  - In an actual implementation, this would be replaced by the Kinetic Request Email Message Create handler available on…wait for it…
  - Kinetic Community!!

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And now an Important Safety Bit!

- Recursion could run forever without a Break/Brake Mechanism.
- Tips to keep this from happening:
  - Write this part of your Sub-Tree first.
  - Insert a Wait node when testing so you have time to review results.
  - Test with Echo Nodes in place of the actual worker nodes if possible until the recursion logic is solid.
- Qualify the connector that points to the Message Create like this:
  - <%=@inputs['Stop Status'] != @results['Get Validation Status']['output']%>

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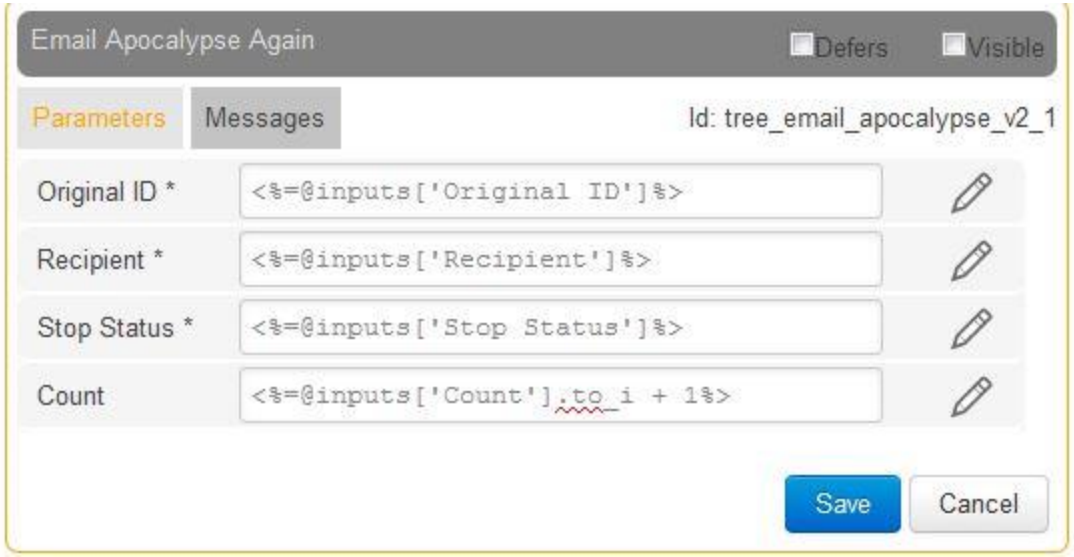
And finally…the Recursion.

- Select the Kinetic Samples Category and find the E-Mail Apocalypse “handler”.
- Open the new node and map the inputs to the inputs:



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One last little bit…

- Note that the “Defers” option is unchecked. Since this Sub-Tree does not return a value, and we have a Wait Node for pacing execution, this can be safely unchecked.
- In order to get a nice Count value, we add this code to the Count input parameter:
  - <%=@inputs['Count'].to_i + 1%>

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One more last little bit…

- To keep track of the Count, add an Echo node off of the Start node that echoes the @inputs[‘Count’] parameter.
- To make it easier to see when the Recursion is complete, add another Echo node and connect it from your Get Status Value node (where you retrieved the value for “Validation Status”).
- Qualify the connector to check that the Gets Status Value is equal to the Stop Status input.
  - **<%=@inputs[’Stop Status'] == @results['Get Status Value']['output']%>**

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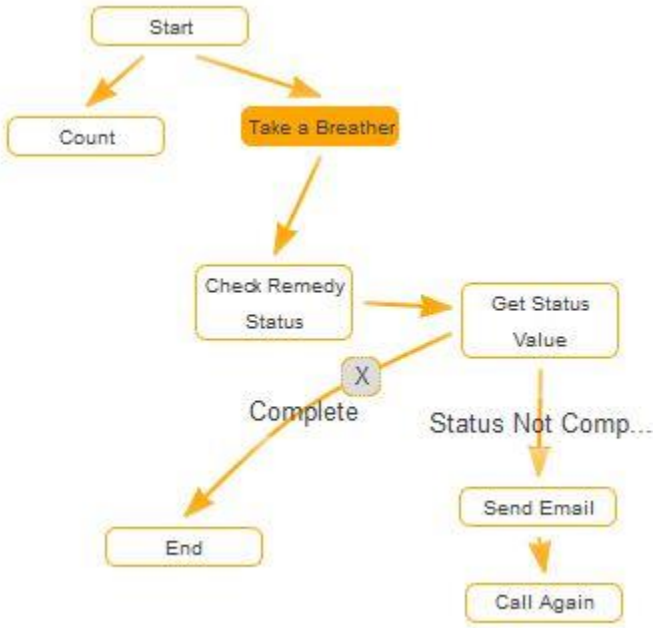
You should now have something that looks like this:



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Questions?

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And now…we put this to use!

- Create a new Service Item with 2 Content Pages.
- Add the following Questions to the first page:
  - Recipient
  - Start Count (set the default to 0 if you'd like).
  - Stop Status
  - Initial Validation Status (map to Validation Status).
- Add the following Question on the second page:
  - Final Validation Status (also map this to Validation Status).

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Adding the Task Tree continued…

- Make sure you set the Tree Type to “Create”.
- This is so the Task Tree will fire on the first page, and we can stop the Tree processing by submitting the second page.

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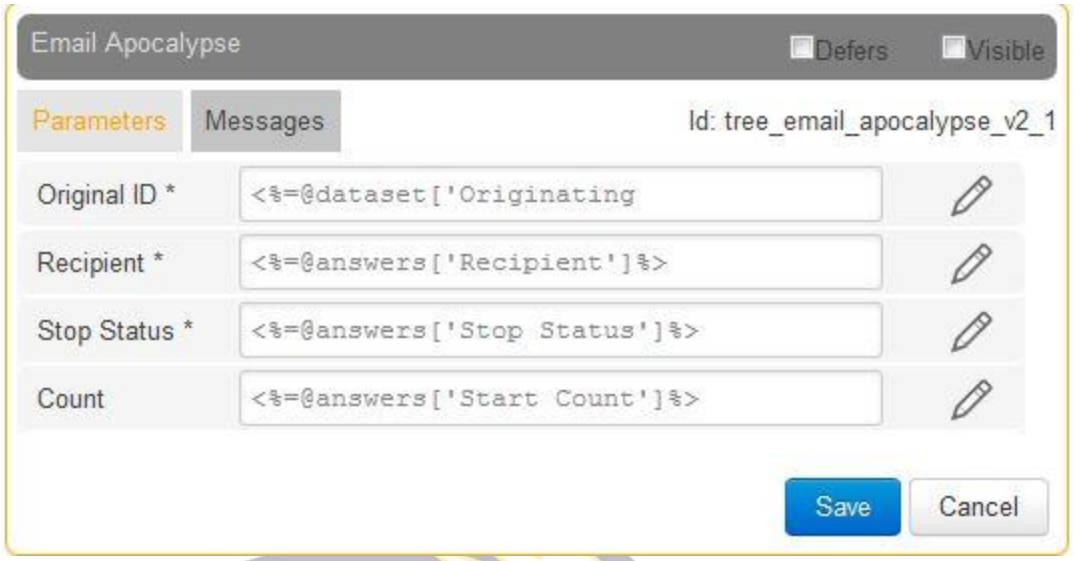
Creating your Service Item tree

- Click “Launch Builder” and log in to the Task Builder application.
- Drag a new Sub-Tree node to the builder.
- Configure the new node like so:



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Testing time!

- A few quick notes before you test:
  - The Wait node will be processed manually for testing. The Escalation that executes timed Task Triggers is disabled on the Matrix VM.
  - To execute a Wait node manually, open the KS_TSK_Wait form, set the Status to “Triggered” and save the record.
  - Open the Task Admin Console before testing so you can watch the process as it happens.
  - When you submit your first page, copy the GUID from the displayed URL after the “?csrv=“. You can then put this into the Executions query to find your Task Tree execution.

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Questions?