Paper 224-2010

The Options You Must Understand to Effectively Publish an ITRM Enterprise Guide Report to a SAS Information Delivery Portal Portlet

Chris Lynn, Safeway Corporation, Salt Lake City, UT

This paper describes the "shortest path" from having an ITRM Enterprise Guide report ready to publish to end users viewing it in a portlet in the SAS® Information Delivery Portal. The paper assumes the products have already been installed and focuses on the implementation of publishing reports into the portal. The paper also covers some of the application choices that can be made, the implications, the various tool inter-relations and the tradeoffs. Publishing one-time reports, scheduled/recurring reports, and stored processes will be covered with a focus on minimizing maintenance.

Introduction

There are many documents that each describes in varying levels of detail how to use the various SAS products. They discuss all the many options that can be selected, but don't often explain how those choices effect the end results, or how they are dependent on other products not covered in that specific document.

There are many options and possibilities, but this paper focuses on the "minimum" requirements to publish content from EG to a usable portlet in Portal with minimal maintenance, but maximum usefulness. This document covers four different SAS products in the prescribed ITRM "standard" implementation and how they work together. When it makes sense, a couple options and their benefits and consequences will be discussed.

The four different tools included in the following steps are, Enterprise Guide, Xythos, SAS Management Console, and SAS Information Delivery Portal. To publish a report for the first time requires touching all four of these tools.

Most of this paper takes the form of a click by click How-To, but the real value of the paper is in the explanations within those clicks of why each choice should be made, as well as, the implications of making that choice to what will be visible to portal users.

There are a few cases where the order of the steps is not critical, but many of these steps do require that they be done in the sequence listed for the various tools to have their pre-requisites met. In other words you can do this in any order you want and it might work, and it might not, but in this order it will work.

Create a "static" EG Report Worth Publishing

This paper will not explain how to create a report, but rather show some ideas how to format it so that it can be viewed and used in the portal effectively.

It is always important to have good titles and labels when producing a report, but it becomes especially critical when publishing to a web portal that could be viewed by almost anyone at any time. When you email a report to someone you are able to include as much context, instruction, and explanation as is required because you know your intended audience and purpose. When creating a web portal that can try to answer as many questions as possible for as many users as possible with the least effort possible it can't be done without built in explanations. The portal provides several places to provide this context, instruction, and explanation, but the only ones that will reside on the same page as the report are the Title, the axis labels, and the footnote so use them to the fullest. It is important to account for what is included in the report, but also what it excluded.

Even the best labeled reports will still have questions. Those questions may come quickly after the report is published or may come long after you have forgotten how the report was developed, or even what project created the report. A useful tip that will save you time and frustration by giving you beginning to end traceability is to include in the footnote of every report (best to include it in the default template) the global variables for the EG project name and the EG task name that is being published.

To edit the "Default Footnote" do the following in the EG client. It should take less than 1 minute to setup, but save hours later on.

1. Open EG
2. Select Tools menu
3. Select Options
4. Select "Tasks General"
5. Edit the "Default footnote text for task output" to be the following 2 lines

Generated by ITRM on %SYSFUNC(DATE(), EURDFDE9.) at %SYSFUNC(TIME(), TIMEAMPM8.)

&_CLIENTPROJECTNAME / &_EGTASKLABEL

This will put a created date and time on one line, and the EG project and EG task that created the report. Now when someone asks a question about a report you can have them tell you the exact project and task that created the report without having to hunt for it.

Create a directory in Xythos Admin for the new report

There are a couple different types of publication channels (created in next step), but they both require a Xythos directory to put the resulting report(s) into for use by the portal.

You can get very fancy with your settings, but the simplest method with a default installation is shown here.

1. Open and login to Xythos Admin (http://server:8300/xythosadmin)
2. Select "File System"
3. Select "List All Top-Level Directories"
4. Select "sasdav"
5. Select "wrs"
6. Select "Add New Sub-Directory"
7. Enter the name of the directory you desire. For traceability, it can be convenient to give this directory the same name as the Publication Channel created in the next major step.
8. Optionally change the Quota. "Unlimited" will prevent a problem with that one directory filling up, but might allow that one directory to effect the overall file system space on the system and therefore cause problems for other published reports. With that said 20 MB is quite a few reports, and will usually be sufficient.
9. Select "Create Directory"

Create a Publication Channel in SAS Management Console to connect EG to Xythos

A "Publication Channel" must be created for each report that will be regularly updated automatically, or for each group of reports that will be created once and left alone (ad-hoc requests).

NOTE: There is no good/automated way to delete publication channels from the portal, even though some menus are offered, but don't work. There is a java program available from SAS support, but better to be sure you build the ones you want.

1. Connect to the Foundation repository of the metadata server with SAS Management Console.
2. Expand the "Publishing Framework"
3. Expand the "omi://[server]:8561"
4. Right click on "Channels" and select "New Channel"
5. Enter the name for this new Publication Channel. (For traceability it can be convenient to give this channel the same name as the Xythos directory created in the previous major step.)
6. Enter a description (viewable in EG when selecting a channel to publish to)
7. Select Next (no changes required on the "Associate package and event subscribers to this channel" Page
8. Select the WebDAV option
9. Enter the Relative Path = Xythos directory created in previous major step. This is the directory that is within …/sasdav/wrs directory that you want to publish to. If this directory does not exist before creating this Publication Channel then it won't work.
10. Select the URL type (2 options)

    a. For a report that will be regularly updated (for example: a daily report using the previous day's data) select the "**Collection**" URL type. This URL type only allows a single file to be placed here. Any future attempts to publish to this channel will overwrite the previous publication, thus making it good for content that is regularly updated.

    b. For reports (one or many) that will be published a single time select the "**Parent**" URL type. This URL type allows many files to be placed here, but if additional files are published they will not overwrite the previous ones. This content type is good for ad-hoc requests for information to allow multiple reports to be placed in a single Xythos directory and single Publication channel (reducing maintenance time to create many), but it will need to be cleaned up manually since the directory is additive.

11. Select Next (verify selections and labels and go back to edit if necessary)
12. Select Finish
13. Restart EG (to recognize the new Publication Channel) and re-run the report from the beginning. EG only lists Publication Channels that exist when it first connects to the metadata server so this step is required any time you will publish to a newly created Channel.

Publish the report from EG to the Publication Channel

1. Right click on the report(s) that you would like published and select "publish"
2. Give a title to the package (For traceability it can be convenient to give this task the same name as the channel and the Xythos directory created in the previous major steps.)
3. Enter a description. This description will be visible in collection portlets in the portal so this is a great place to include instructions, explanations, or context for this report. This description will also show up when searching in the portal. In other words this description will be visible to users so make it meaningful.
4. Optionally define an expiration date when the report should become unavailable.
5. Click "Next" (assuming you only have one metadata server)
6. Select the Publication Channel you created for this report (created in previous section).
7. Highlight the report from the list on the left.
8. Select "Item Properties" from the right side.
9. Edit the "Description" field to be descriptive of the report. If this is not edited then the report title once the package is selected in the portal/portlet will be "HTML Report" which is not very descriptive.
10. Select "OK"
11. Select "Finish"

Configure the Portal to show the report(s)

1. Login as SAS web admin.
2. Create a "page" in Portal (basically a tab, that can have the "share type" (default, sticky, available) and "location" (which single group can view it).

a. Select the "Options" menu, and select "Add" from the drop down in the "Pages" section.
b. Give the page a Name, or in other words label the tab.
c. Description and Keywords are optional, but are not readily visible to the public.
d. Rank is optional to edit, but controls the sequence of tabs from left to right or top to bottom.
e. Change the "Location (group)" value to the group of portal users who should have access to view this page.
f. If you select any group other than "Not Shared" then you will need to select a "Share type" as well. There are 3 options. "Available" will create a page that if people search for it they will be able to find and add to their personal portals. "Default" will place the page in the portal for all members of the assigned group, but they can remove it from their portal if they want to. "Sticky" will place the page in the portal for all members of the assigned group, but they will NOT be able to remove it. More frequent or power portal users will appreciate the flexibility of "Available" (put how do you tell people new content is available) or "Default", but infrequent users, and especially any shared portal ID's will prefer the Sticky option so they can't remove content in ignorance of the impact.
g. Select "Add"
h. Select "Done"

3. Create a "portlet" in Portal. A portlet in this application is simply a rectangular space to put something else in. The actual content/report will be placed in the portlet in a later step.
   a. Select the "Options" menu from the top right of the screen, and select "Create New Content" from the drop down in the "Tools" section.
   b. Select "Portlet" and then "Create"
   c. Select the portlet type
      i. Collection Portlet = a list of content, like reports
      ii. URL Display Portlet= shows the content of a URL that is included in the portlet (iFrame has worked for me)
   c. Give the portlet a "Name" that will be searchable, and visible/informative to the end user. Remember this name since you will search for it in step 4.
   d. Again "Description" and "Keywords" are optional and not readily visible to the end user.
   e. Change the "Location (group)" value to the group of portal users who should have access to view this portlet.
   f. Select "Create"
   g. Select "Done"
   h. Select "Done" or create another portlet/page/link etc.

4. Add the portlet to the page/tab
   a. Select the page/tab you created in step 2.
   b. Select the "Options" menu from the top right of the screen, and select "Edit Content" from the drop down in the "Current Page" section.
   c. Select "Add Portlets"

    d.   Select the "Search" tab

    e.   Enter the name of the portlet(s) you want to add and select "Search"

    f.   Select the box next to each portlet you would like to add to this page.

    g.   Select "Add" (a message will appear at the top saying "# portlet(s) added.")

    h.   Select "Done"

    i.   Select "OK"

5. Add item(s) to the portlet(s).

    a.   In the top right corner of each portlet (not of the whole screen) you will see the group that is allowed to view that portlet as well as four items to select (only 3 available at this point).

    b.   Select the icon that looks like a pencil to paper. If you mouse over it will say "edit content".

    c.   For a "Collection Portlet"

        i.   Select "Add Items"

        ii.   Select the "Search" tab

        iii.   Select the type of content and enter any keywords (* is allowed) for the type of content you want to include in this portlet, then select "Search". The report published earlier from EG will have a "content type" of "Package"

        iv.   Select the box next to each item you would like to add to this portlet. (In my environment "Package" and "SAS Stored Process" are most common.)

        v.   Select "Add" (a message will appear at the top saying "# item(s) added."

        vi.   Select "Done"

        vii.   Deselect "Show description" if you don't want the description created for the report back when publishing in EG to show in the portlet list of items. I usually leave this option selected since it prevents the user from having to go into the report to get more detail than just the report name.

        viii.   Deselect "Show location" if you don't want the path to the item on the Metadata server to be visible in the portlet. I usually deselect this item since it takes up space and doesn't provide most users with information they need.

        ix.   You can also use the arrow keys on the right of the box to change the order the items will be displayed.

        x.   Select "OK"

    d.   For a "URL Display Portlet"

        i.   Enter the URL you would like to show the content of in the portlet. Be sure the portal has access to the URL (not protected by firewalls or proxy servers for example).

        ii.   Optionally select the "Show URL content inside an I-Frame". For simple text or HTML content it works well without an I-Frame and then the sizing is minimized to the content, but for more complex

> URL's (e.g. SAS Stored Process pages) it doesn't work without an I-Frame.
>
> iii. Optionally change the "I-Frame Height" dependent on how much of the site you want viewable inside the portlet without scrolling.
> iv. Select "Save"

Export SAS code from EG and schedule to run and update automatically.

1. Run the full process flow in EG that you want to export.
2. Select the "File" menu
3. Select "Export" and then "Export All Code"
4. Select "Browse" and choose where the SAS code should be placed and what it should be named.
5. Edit the code if necessary? (perhaps need to make the same "where" clause edit as in the "Publish a Stored Process" section of this paper.
6. Select "Export"
7. Schedule that exported code in your scheduling system to run the day(s) and time(s) desired.

Publish a Stored Process to the Portal
1. Create a report with parameters in EG worth publishing. (same guidelines as for "static"/non-parameterized reports)
2. Run the report from beginning to end in EG as a user with authority to create and that will not be impacted by having the credentials hard coded into the stored process. In other words try to use a user that has a "permanent" password to prevent you needing to update the stored process each time the password changes.
3. Right Click in the process flow and select "Create stored process"
4. You may get a warning telling you the stored process will be run with hard coded credentials.
5. If dates were used as parameters you will likely get a "Parameter Translation Problem" warning. This warning will be addressed in a later step so select "close" at this point.
6. Give the Stored Process a "Name". This name will be searched for and visible in the portal so make it meaningful to the end user.
7. Enter a description of the Stored Process that will also be visible in the portlet by the end user. This is a good place to put instructions for the user on how to use the stored process including any guidance on how to interpret the results. For example: "Select the start and end date (in the last 12 weeks, and not today), and the LPAR you are interested in."
8. Select "Next"
9. If dates were used as parameters, find the "WHERE" clause that refers to those parameters and make the following edits to all date parameters
    a. Change   &StartDate   to   "&StartDate"d
    b. In other words, surround the existing parameter with double quotes and add a "d" after the close quote.
10. Select "Next"

11. Select "Choose Location"
12. Select a Metadata Location directory to store the stored process in. I have had mixed results with this step, but SAS support says it should work best to use a directory in the ITMS repository. I have had success publishing Stored Processes to directories in both ITMS and Foundation repositories, but the behavior from the portal side has been different depending on the choice.
13. Select "Next" to go to step 4 of 8
14. Select "Next" to go to step 5 of 8
15. Select "Next" to go to step 6 of 8
16. This screen controls the order the parameters will be shown to the portal user. Select any parameter that should be viewed in a different order than shown and use the arrows at the bottom right of the window to change the order.
17. Select "Add" and then "New Parameters"
    a. Type "_GOPTIONS" (without the quotes) in the "User prompt" field
    b. Type "_GOPTIONS" (without the quotes) in the "SAS variable name" field
    c. Select the "Default Value" check box
    d. Type "DEVICE=ACTIVEX" (without the quotes) in the field to the right of the "Default Value" check box
    e. Deselect the "Modifiable" check box
    f. Deselect the "Visible" check box
    g. Select "Add"
    h. Select "Close"
    NOTE: Some users may not need this step since it should be just resetting a default, but without this step the Stored Process results can't be returned to the portal in our environment.
18. Select "Next" to go to step 7 of 8
19. Select "Streaming output" (again to avoid errors when viewing in the portal)
20. Select "Next" to go to step 8 of 8
21. Select "Finish"
22. Follow the steps in the "**Configure the Portal to show the report(s)**" section of this paper to place the Stored Process in a portlet.
    a. Create a "page" in Portal, or reuse existing
    b. Create a "portlet" in Portal or reuse existing
        i. Collection portlet type (does require activeX parameter addition)
        ii. URL portlet type (does NOT require activeX parameter addition)
    c. Add the new Stored Process to the portlet
        i. Collection portlet (same as using a report published through a channel)
        ii. Get the URL of the Stored Process to configure the URL portlet
            1. From the Portal front page select "Search" in the top right of the window.
            2. Enter the name (or a portion of the name) in the "keywords" field.
            3. Select "SAS Stored Process"
            4. Select "Search"

5. Select the link (in the "Name" column) to the Stored Process.
6. Copy the resulting URL from your browser and use it with an I-frame when configuring the URL portlet method.

Custom "Welcome Portlet" etc.

SAS Information Delivery Portal comes out of the box with a "Welcome" portlet, but the text of that portlet cannot be edited. There is a need for a portlet that provides an introduction or some education on how to use the portal. A reasonable, however not necessarily intuitive, solution to this is to use URL portlets and point them to html files that contain the desired content.

A URL portlet can be used to point to any URL on any available web server, but for these simple "Welcome" or "Text" portlets it seems simplest to use the same web/application server that Portal uses. A "fancy" html page can be created or a simple text file can be used depending on your specific objective.

To use the ID Portal webserver for this content you can place your new files in the following directory: ……./jakarta-tomcat-4.1.18/webapps/ROOT/[newFile.html]

The following URL can be used in the URL portlet to view the content of that file in the portal: http://server:8080/newFile.html

This same solution can also be used for user instructions in the portal, announcements, FAQ's, or other resources available to the user on the intranet without them going to another portal.

Conclusion

The SAS Information Delivery Portal has a great deal of flexibility and many options available for use with ITRM. However, sometimes those options and their implications in future steps are not always obvious. Every site that uses ITRM and the portal will use the tools differently, but the steps and concepts in this paper will provide a great starting point to get useful reports out quickly, reliably, and with minimal future maintenance.

Appendix:
Reference the version and platform of each of the applications involved.
Enterprise Guide 4.1 on XP
Xythos 4.2.35.3 on Solaris
SAS Management Console 9.1 on XP with metadata server on mainframe
SAS Information Delivery Portal v913sp4
Tomcat 4.1.18 on Solaris