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Introduction

This White Paper is a practical guide for technical users, installers, system administrators, and programmers who implement, maintain, or develop applications for your PeopleSoft system. In this White Paper, we discuss guidelines on how to implement and diagnose a Communication Generation environment.

Much of the information contained in this document originated within Oracle. Although every conceivable question that one could encounter does not appear in this document, the issues that appear are the questions that prove to be the most common.

Keep in mind that Oracle updates this document as needed so that it reflects the most current feedback we receive from the field. Therefore, the structure, headings, content, and length of this document are likely to vary with each posted version. To see if the document has been updated since it was last downloaded, compare the date of your version to the date of the version posted on My Oracle Support.

We assume that our readers are experienced IT professionals, with a good understanding of PeopleSoft's Internet Architecture. To take full advantage of the information covered in this document, we recommend that a user have a basic understanding of system administration, Internet architecture, relational database concepts/SQL, and how to use PeopleSoft applications.

This document is not intended to replace the documentation delivered with PeopleSoft Enterprise PeopleBooks. We recommend that before a user read this document, the user read the related documentation in the Campus Solutions 9.0 PeopleBooks.

Many of the fundamental concepts about Communication Generation and affiliated functionality are discussed in the following resources:

- PeopleSoft Enterprise Campus Community Fundamentals 9.0 PeopleBook: Setting Up Communications and Managing Communications
- Enterprise PeopleTools 8.XX PeopleBook: XML Publisher for PeopleSoft Enterprise
- Oracle XMLP Core Components Guide 5.6.3

Chapter 1 – Understanding the Communication Generation Process

Communication Generation is a new feature delivered in Campus Solutions Release 9.0 which relies on the underlying 3Cs structure and Campus Community setup features, including the following:

- Setting Up and Assigning Communications
- 3C Group Security
- Administrative Functions
- Variable Data
- Usage Tables for Name, Address and Joint Salutation

Communication Generation is an Application Engine process named SCC_COMMGEN. The process leverages fusion integration with Oracle XML (Extensible Markup Language) Publisher (also known as Oracle Business Intelligence Publisher). XMLP/BIP is a PeopleTools feature that enables a user to manage and merge XML document templates and communication data source files for the process to generate communications.

This feature expands on the functionality provided by Letter Generation (CCLTRGEN) to extract data for communications, but is greatly enhanced to support additional features such as the following:

- Generate hard copy letter or e-mail, labels, and envelopes.
- Utilize communication preferences, including preferred method and language.
- Preview generated output.
- Extract only data needed for a specific template.
- Select a subset of IDs to generate communications using Population Selection feature.
- Extract Checklist information from different Administrative Functions.
- Select specific organization contact, department and location.

The basic steps for setting up Communication Generation are as follows:

1. Design a communication plan.
2. Set up the 3Cs structure.
3. Create one or more queries (or application classes) which select the additional record fields to be used in the Communication Data Source.

4. Create a Communication Data Source and tie any custom queries (or application classes) to the Data Source Definition.
5. Finalize the XMLP Document Template.
6. Create a Report Definition to link the XMLP Document Template with the Communication Data Source.
7. Associate the Letter Code with the Report Definition.

CONSIDERATIONS BEFORE IMPLEMENTATION

There are various items that should be considered prior to implementing Communication Generation, including the following:

1. Choose a user design tool. XML Publisher report formats can be designed using Microsoft Word or Adobe Acrobat Pro. Microsoft Word is a familiar standard word processor with a lot of flexibility. Forms created in Adobe Acrobat Pro, which are much more complex, can be built to ensure that they are filled out correctly. This paper covers the use of Microsoft Word as the design tool.
2. Decide how the correspondence will be delivered to its audience. Delivery methods are hardcopy or e-mail. Output options include send to printer, send to file, create envelopes, and create labels. The default output format for hardcopy delivery methods is PDF. Email output should be in HTML format.
3. Determine the layout of the correspondence by creating a mockup of the communication. More complex layouts using Word may need advanced merge logic, or formatting switches, embedded within the template (e.g. format of date and addresses).
4. Review and decide which Administrative Function should be used to extract the appropriate data for the communication (e.g. ADMP, EVNT, PROP). For each variable, you'll need to identify the corresponding record field from which to get the data. Users are encouraged to use PeopleTools Query to select record fields not already included with the standard Administrative Function variable data fields.
5. Estimate how large the audience will be. This is important in determining if the bursting feature, which enables a single data extract file to be separated into relevant content for hundreds or thousands of recipients, should be used. For the query tool, the recommended maximum is 50,000 rows of data.

SERVER RECOMMENDATIONS

As part of normal processing, XML/BI Publisher generates temporary file(s) that are directly related to the size of the XML data file(s) generated by the Communication Generation process.

The size of the Sample Data File generated by the process when a user registers a Communication Data Source should provide an approximation of the data file. Once this size has been determined, use the following to calculate the size of an XML Data File:

$$\text{XML Data File Size} = (\text{size of Sample Data File}) \times (\text{total number of transactions to process})$$

Temporary file(s) generated by XMLP/BIP could be anywhere from 3 to 5 times the size of the XML Data File. Consider increasing the default Java heap size gradually to accommodate posting files that are five megabytes (MB) or larger.

System and global properties for XML/BI Publisher should be configured as part of the initial setup. The default xdo.cfg file, located in the \$PSHOME/appserver directory, is as follows:

Example for PeopleTools 8.49.XX:

```
<config version="1.0.0" xmlns="http://xmlns.oracle.com/oxp/config/">
<properties>
<!-- System level properties -->
<property name="xslt-xdoparser">true</property>
<property name="xslt-scalable">true</property>
<property name="system-temp-dir">CACHE</property>
<property name="system-cachepage-size">50</property>
<!-- PDF compression -->
<property name="pdf-compression">true</property>
<!-- PDF Security -->
<!-- <property name="pdf-security">true</property> -->
<!-- <property name="pdf-open-password">user</property> -->
<!-- <property name="pdf-permissions-password">owner</property> -->
</properties>
</config>
```

Additional information is located in Enterprise PeopleTools 8.XX PeopleBook: XML Publisher for PeopleSoft Enterprise > Setting Up XML Publisher.

PREREQUISITES

There are key elements that need to be set up prior to the implementation of Communication Generation.

1. Define name usages by navigating to Set Up SACR > Product Related > Campus Community > Establish People Processing > Setup > Name Usage Table (Record: NAME_USAGE_TBL).
2. Define address usages by navigating to Set Up SACR > Product Related > Campus Community > Establish People Processing > Setup > Address Usage Table (Record: ADDR_USAGE_TBL). If e-mail will be a communication method, a user needs to make certain that an address usage contains at least one E-Mail Usage Type.
3. Define organization recipient usages by navigating to Set Up SACR > Product Related > Campus Community > Establish People Processing > Setup > Organization Recipient Usage (Record: SCC_ORG_USAGE). When either All IDs, All Org IDs, or One Org ID is selected on the Communication Generation run control, at least one usage is required.
4. Determine if templates will be designed to distribute correspondence depending on Communication Preferences, including the support of multiple languages and methods. Based on settings defined on the Installation Default – CC page (Navigation: Set Up SACR > Install > Campus Community Installation), the appropriate languages and methods of communications should be selected. This data can be collected in Self Service (Navigation: Self Service > Campus Personal Information > Communication Preferences) or updated by administrative users (Navigation: Campus Community > Personal Information > Biographical > Personal Attributes > Communication Preferences). The Communication Generation process can generate e-mails and letters at the same time only if you use the Communication Preferences feature.
5. When the Communication Preferences feature is not used, one type of communication method can be used to process communications, such as E-mail or hard copy Letters. Select “Support multiple methods” and add each method on the Installation Default – CC page (Navigation: Set Up SACR > Install > Campus Community Installation).
6. Install the XML Publisher Word Plug-in on user desktops. To accomplish this task, navigate to Reporting Tools > XML Publisher > Setup > Design Helper. Click the Plug-in link and save the xmlp_desktop.zip file to the Temp folder. Unzip, or extract, the files. Run the setup.exe found in the XMLP_DESKTOP folder. A user may also download from the following Oracle Technology Network (OTN) BI Publisher downloads website: <http://www.oracle.com/technology/software/products/publishing/index.html>. The download and installation processes take about 15-20 minutes. A tutorial and samples are included with the installation. If the error ‘Compile error in hidden module: Module_starter’ is encountered, this is due to the installation of Microsoft Security Update KB936021. The following workaround is available:
 - a. Navigate to the Start Menu on PC, then Program Files > Oracle > XML Publisher Desktop > Template Builder for Word-Bin.
 - b. Double-click on the file “ChangeUILang.exe”.

- c. Select the appropriate language and click OK. This will register the User Interface language.
7. Provide the appropriate security access to Pages, Processes, Component Interfaces, Web Libraries, and Secure Student Administration. Access to the delivered security role “XMLP Report Developer”, which uses permission list PTPT2600 and provides access to all XML Publisher components (including setup capability on the advanced feature Report Definition Bursting page) should be considered. In addition, the delivered role “XMLP Power User”, which uses permission list PTPT2500, provides access to Query data sources for ad hoc reporting through Query Report Viewer and Query Report Scheduler. It also provides access to report definitions and to the Content Library, although access to the report definition bursting information is Display Only.
8. In preparation for using the e-mail communication method, set Process Scheduler SMTP settings (refer to Enterprise PeopleTools 8.XX PeopleBook: PeopleSoft Process Scheduler - Using the PSADMIN Utility: Editing the PeopleSoft Process Scheduler Configuration File). The file can be found using the following path:

```
<ps_home>\appserv\prcs\<databasename>\psprcs.cfg
```

Open the file using an application such as Notepad. The SMTP should be configured as below, changing server and sender settings as appropriate:

```
[SMTP Settings]
;=====
; Settings for SMTP mail
; All controls under SMTP Settings can be dynamically changed
;=====
SMTPServer=[machine].[internet address]
SMTPPort=25
SMTPServer1=[machine].[internet address]
SMTPPort1=25
SMTPSender=[SMTP-USER]@[internet address]
SMTPSourceMachine=%PS_MACH%. [internet address]
SMTPCharacterSet=UTF-8
SMTPEncodingDLL=
```

SMTPTrace=0

SMTPSendTime=0

9. Ensure that the user desktop has a minimum of Java 1.3 or higher. This software can be downloaded for free at <http://java.com>.
10. Install Adobe Acrobat on the Process Scheduler.
11. Confirm that the directory, [PS_HOME]/appserv/PRCS/[domain]/CACHE, exists on the process scheduler server.

Chapter 2 – Defining and Registering a Communication Data Source

There are key settings and rules that need to be implemented to successfully define the Communication Data Source (Record: SCC_CG_DTASRC). To begin, navigate to Campus Community > Communications > Set up Communications > Communication Data Source.

IMPORTANT: The XMLP Data Source from within PeopleTools does not work with Communication Generation.

CREATING THE DATA SOURCE

The Data Source Map ID should be unique and have a naming convention that is easily searchable, such as the delivered examples. This ID links the XML/BI Publisher data source to the Communication Generation process metadata. Using the Register Data Source button on the bottom of the page automatically stores the data source inside the PeopleTools tables (PSXPRPTMPL, PSXPTMPLDEFN).

The Object Owner ID, which is optional, provides portal owner security to modify the data source. Information relating to this can be found in Enterprise PeopleTools 8.XX PeopleBook: Internet Technology - Administering Portals.

The Administrative Function identifies what key data should be added to an ID's communication, checklist, or comment record when a specific communication category, checklist code, or comment category is assigned. Once the Tab key is pressed, the Generic Process Data section is populated. This is a list of generic data that is always extracted. A user can prioritize the order of the records using sequencing.

The Critical Data check box must be selected to identify specific data that is required to generate a communication, such as an e-mail address when using the e-mail communication method. On the Communication Generation run control page, a user can specify what to do if critical data is missing: either to process the communication without the data or not to process the communication for IDs that are missing the data.

Custom extract data can also be identified in addition to the generic process data to identify additional data to extract for a communication. A Query or Application Class can be used to identify custom fields. In this paper, we will discuss using queries only.

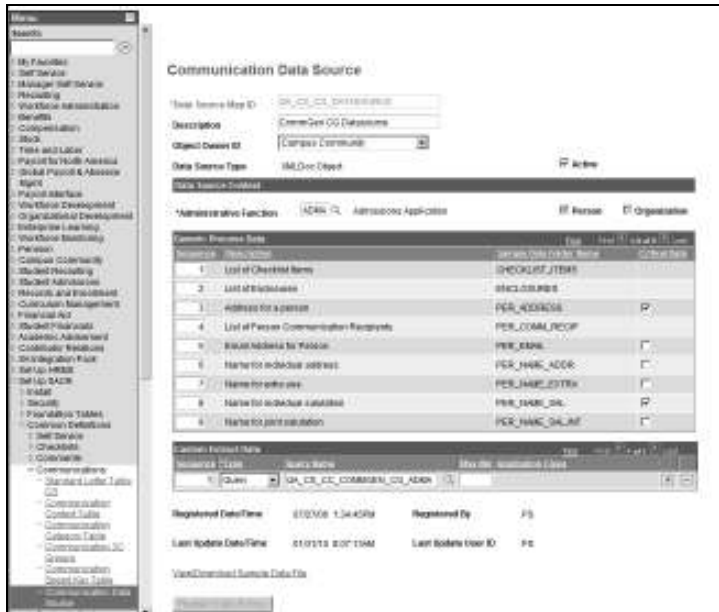


Figure 1: Communication Data Source Page

RULES FOR USING QUERY

The PeopleTools Query tool (Navigation: Reporting Tools > Query > Query Manager) is used to create most communication data sources. The query defines the ‘what’, or from what additional data fields the process should extract data to merge to the communication. This query should not define ‘who’ should receive the communication. When using Query in conjunction with RTF template-based files, design the data source structure to be as close as possible to the actual document template structure to improve runtime performance.

The following rules must be met to enable a query for use within Communication Data Source:

1. The Query must be based on the administrative function used in the Communication Data Source setup.

For example, the Communication Data Source uses administrative function ADMP. The query must include the record ADM_APPL_PROG (see Appendix A for list of administrative functions and their associated record).

2. Minimally, the query must include one query prompt to retrieve a person ID or organization ID, or a combination of the two.

3. If the administrative function has related variable data, you must create query prompts only for the variable data associated with the core record and add the prompts as criteria.

IMPORTANT: The process only accepts query prompts for retrieving a person and/or organization ID as noted in #2 and variable data fields associated with the administrative function that is specified in the communication data source (see Appendix A for list of administrative functions and their associated variable data fields).

4. For Person ID or Organization ID prompts used in the query, a Unique Prompt Name must be created. A user can populate the Unique Prompt Name by clicking the Edit button on the corresponding Prompts page of the Query Manager component. Then, change the value in the Unique Prompt Name field to a value that will prompt for the desired data. This is the only way the process will know what data to pass to the prompt list.
 - a. For Person ID prompts, the unique prompt name must be “PERSON_ID”. The typical key field for persons in transaction tables is EMPLID. However, entering PERSON_ID enables the process to select person data from tables with a different person ID key field. For example, the process searches for PERSON_ID and will assign the COMMON_ID for person communications to the query prompt. See the image below as an example (BIND1 is replaced with PERSON_ID as Unique Prompt Name value):

The screenshot shows the 'Edit Prompt Properties' dialog box with the following fields and values:

- Field Name: EMPLID
- *Type: Character
- *Format: Upper
- Length: 11
- Decimals: (empty)
- *Edit Type: Prompt Table
- *Heading Type: RFT Short
- Heading Text: ID
- *Unique Prompt Name: PERSON_ID
- Prompt Table: PEOPLE_SRCH

Figure 2: Edit Prompt Properties Subpage with Modified Unique Prompt Name

- b. To prompt for organization ID, enter the Unique Prompt Name of “ORG_ID”. The typical key field for organizations in transaction tables is EXT_ORG_ID. However, entering ORG_ID enables the process to select organization data from tables with a different organization ID key field. The process searches for ORG_ID and will assign the COMMON_ID for organization communications to the query prompt.

- c. To prompt for both person ID and organization ID, enter the Unique Prompt Name of “COMMON_ID”. The typical key field used in shared transaction tables is COMMON_ID. Entering COMMON_ID enables the process to select person and organization data from shared tables with a different common ID key field. The process searches for COMMON_ID and assigns the COMMON_ID for person and organization communications to the query prompt. The process uses the SA_ID_TYPE field at run time to place the COMMON_ID for the communication into the correct person or organization query prompt field.
5. Based on the Data Source Context selected for the Communication Data Source, the Query prompt(s) will be validated when the Register Data Source button is clicked. The steps in validating any given Data Source Context are as follows:
 - a. Validate the Person/Organization Context:
 - 1) Person only - Valid unique prompt names include PERSON_ID, COMMON_ID and SEQ_3C.
 - 2) Organization only - Valid unique prompt names include ORG_ID, COMMON_ID and SEQ_3C.
 - 3) Person and Organization combined - Valid unique prompt names include PERSON_ID, ORG_ID, COMMON_ID and SEQ_3C.
 - b. Validate the Administrative Function Context. Valid Unique Prompt Names include the record.field VAR_DATA_%.FIELDNAME, where “%” is the value of the Administrative Function used in the Data Source Context. The valid values are the actual field names used in the dedicated Variable Data table for the Administrative Function selected (refer to Appendix A for a comprehensive list).
6. When using the Search/Lookup for the Query Name on the Communication Data Source page, logic evaluates the settings in the Data Source Context section on the Communication Data Source page (which comes from the administrative function) and returns queries as follows:
 - a. Person = Y and Org Y: Prompt returns queries set with prompts for Person ID and Org ID.
 - b. Person = Y and Org N: Prompt returns queries set with prompts for Person ID only.
 - c. Person = N and Org Y: Prompt returns queries set with prompts for Org ID only.

If a query is set with Person ID and Org ID prompts with an 'or' condition between the two, the process will still consider the query to be valid when both Person and Org checkboxes are turned on in the Communication Data Source page. Additionally, the system evaluates which queries contain the record that contains the variable data fields from the administrative function indicated on the page, and restricts the return to those queries.

7. Avoid using Expressions as part of a field or criteria, as the process may abend abnormally. An example is “(CONVERT(CHAR(10),D.EFFDT,121))”.
8. The Max Nbr, or maximum number, is specific to queries only. This number can be used to restrict the number of rows selected into a Standalone Rowset by passing a maximum number into the Rowset Fill method. Normally, this is accomplished within the selection criteria of the query and this value can be left blank.

REGISTERING THE DATA SOURCE

Once the custom extract data query or application class has been added (if applicable), click on the Register Data Source button to synchronize the communication data source with the PeopleTools record. The audit information fields will be populated by the system.

Click on the View/Download Sample Data File link and save the file in a directory of your choice with the extension of xml. This file will be needed to load into the XML template using the delivered design helper tool during a later step. The file contains all the fields that the Communication Generation process will extract, which can be included as variables in a template(s).

IMPORTANT: When a change is made to the Communication Data Source, including any update to the query or application class, the system re-activates the Register Data Source button. The Data Source must be registered again for the system to accept and use the changes and synchronize it with the PeopleTools record.

Chapter 3 – Creating an XML Publisher Document Template

This chapter is a supplement to and does not replace the Oracle XMLP Core Components Guide and Enterprise PeopleTools 8.XX PeopleBook: XML Publisher for PeopleSoft Enterprise. XML/BI Publisher is a standalone Java-based reporting technology that provides users with the ability to design and create document templates with common desktop applications such as Microsoft Word and Adobe Acrobat. For this paper, we will be discussing an overview of the creation of templates using Microsoft Word.

USING MICROSOFT WORD

The XML/BI Publisher Word Plug-in, or Template Builder, is a wizard extension of Microsoft Word that simplifies the creation of RTF templates. Template Builder demos, which are loaded during installation of the Template Builder, can be found in the following location on a user's hard drive: C:\Program Files\Oracle\XML Publisher Desktop\demos. In addition, sample templates can be found in the following location: C:\Program Files\Oracle\XML Publisher Desktop\samples. It is recommended that this information is reviewed prior to building a template.

The Template Builder allows a user to perform the following functions:

- Insert data fields
- Insert data-driven tables
- Insert data-driven forms
- Insert data-driven charts
- Preview template with sample XML data
- Browse and update the content of form fields
- Extract boilerplate text into XLIFF, or XML Localization Interchange File Format, and test translations
- Integrate with many of Microsoft Word’s native formatting features (e.g. If-Then-Else)
- Create sub-template(s) which can contain common elements (e.g. logo)

When the Template Builder is installed, a user should see a new toolbar that looks similar to the following and/or a new menu option called Template Builder:

TEMPLATE BUILDER MENU

DATA	INSERT	PREVIEW	TOOLS	HELP
Load XML Data	Field	PDF	Field Browser	Help
Load XML Schema	Table Wizard	HTML*	Validate Translation	About
Load Report*	Table/Form	EXCEL*	Translate Template	
SQL Report Wizard*	Pivot Table	EXCEL 2000*	Export Options	
	Chart	RTF*		
	Repeating Group	PowerPoint*		
	Conditional Format			
	Conditional Region			
	All Fields*			

*Menu items not commonly used for Communication Generation

Following are general guidelines to consider when creating a template from scratch:

- Use the standard Letter (8 ½ x 11 inches) size for templates. Most documents are destined for a printer, so using custom paper sizes is not going to work once the document is printed. Where the standard paper size is A4, the rendering engine will scale the report up to the A4 size.
- For portrait orientation the margins should be set to:
Left: 0.5 inches Right: 0.5 inches

Top: 0.75 inches* Bottom: 0.75 inches*

*The size of the header and footer may need to be increased or decreased depending on the data to be included.

- In general, use 9 point black font for all text. Do not use a smaller font, as this will cause readability problems when the document is translated to a glyph-based language such as Chinese or Japanese.
- Allow additional space for translation expansion. Most translated strings will fit within 75% translation expansion but some, particularly short strings, can take up to 150%.
- Do not format the document by using characters (e.g. underlines, dashes).
- If a hyperlink is used in the template, ensure not to hardcode the URL. Using hardcoded links may work during testing, but the template is going to fail once used by the Communication Generation process (see section below, Special Formatting – Hyperlink).
- The template content and layout must correspond to the content and hierarchy of the XML data file.
- Each group of repeating elements in the template must correspond to a parent-child relationship in the XML data file.
- Preview is essential to catch errors and review how it will look before uploading the template to the Report Definition.
- Templates and sub-templates must be saved as an RTF file to work with Communication Generation.

Creating an RTF template for a letter or e-mail can be done by using the basic steps below:

1. Open the document that will be used as the template in Microsoft Word.
2. Load the sample XML data by navigating to Data > Load XML Data. Select the XML sample data file. A user will receive a message that the data was successfully loaded. Click OK.
3. Begin to add fields into the template by navigating to Insert > Field. Position the cursor where a user wants to insert the field. Select the field from the Field Dialog box and click Insert, or double-click the field in the Field Dialog box to insert the field. Select another data field or exit the window by clicking the Close button. (Note: If a user sees {FORMTEXT}, rather than the fld_[field name], navigate to Tools > Options > View to turn off Field Codes or select Alt+F9. If field codes are printing, rather than field results, deactivate Field Codes by navigating to Tools > Options > Print.)
4. Save the document as Rich Text Format (*.rtf).

5. Navigate to Preview > PDF to view the layout of the document. This is essential to catch any errors in syntax and to get a better idea of how the communication will look to the recipient.

SPECIAL FORMATTING

Microsoft Word picks up only the data and none of the formatting stored in the application interface. A user will need a way to display values in the format desired. The easiest method is to add formatting switches to the field codes.

DATE

Dates can be formatted in Template Builder by using one of the methods described below:

1. Specify an explicit date format mask using Microsoft Word's native date format mask.
2. Specify an explicit date format mask using Oracle's format-date function.
3. Specify an abstract date format mask using Oracle's abstract date format masks (recommended for multilingual templates).

Only one method should be used. If both the Oracle and Microsoft format masks are specified, the data will be formatted twice, causing unexpected behavior.

To change the merge result date to letter format, display the field codes and add a date formatting switch similar to the example below:

January 17, 2010	{ MERGEFIELD "fld_COMM_DT" \@ "MMMM d, yyyy" }
------------------	--

Notice the uppercase M for the month; lowercase m displays minutes.

HYPERLINK

Microsoft Word can create a hyperlink using a Hyperlink field. The TEXT (URL) can be passed through the mail merge and nest the merge field into a Hyperlink field. This has to be done as the last action in the template design. Following are the steps for creating executable hyperlinks:

1. Set up the merge document with everything, up to the hyperlink.
2. Press Ctrl+F9 to insert a pair of field brackets.
3. Type the field name: Hyperlink, followed by a space.
4. Insert the mergefield containing the URL to which a user wants to link.

The result should look something like this:

```
{ Hyperlink { Mergefield HyperlinkURL } }
```

or like this:

{ Hyperlink http://www.oracle.com }

5. Execute the merge immediately to a new document (Note that this only works in a merge to a new document, as a user has to be able to force the field updates.).
6. In the merge result file, press Ctrl+A, then F9 to update all the fields.
7. Press Alt+F9 to toggle the field codes off.

There should now be a different Hyperlink for each merged record. The displayed text will be the URL from the merge field. There is no way to affect what the displayed text will be using mail merge.

INSERTING IMAGES

Inserting images into a template can be accomplished using one of the two methods described below:

1. Directly insert or add the jpg, gif, or png image in the template. When a template is created with an embedded image, the wrapping style must be set to INLINE.
 - a. To do this in Microsoft Word 2000 or 2003, open the template, right-click on the image, and navigate to Format Picture > Layout > Wrapping Style. Select “INLINE” and save changes.
 - b. In Microsoft Word 2007, right-click on the image, navigate to Text Wrapping and select “In Line with Text”.
2. Use the URL Reference method within the template, keeping in mind that the image must reside on a publicly accessible server. This method is recommended for use with e-mail communications.
 - a. To do this in Microsoft Word 2000 or 2003, open the template and insert a dummy image. Then, right-click on the image and select Format Picture. In the Web tab, enter the following syntax in the Alternative text region to reference the image URL:
 url:{'http://image location'}. For example, enter:
 url:{'http://www.oracle.com/images/ora_log.gif'}.
 - b. To do this in Microsoft Word 2007, right-click on the image and select Format Picture. In the Alt Text tab, enter the reference to the image URL in the Alternative Text box.

Note: It is not possible to use the concat function method, as it is applicable to Oracle E-Business Suite installations, and not PeopleSoft (e.g. url:{concat('http://webserver:port/ps/images/',//IMAGE,'.jpg')} where IMAGE is an element from the XML file that holds the name of the image without file extension.

PRINTING BAR CODES

Bar codes can be printed on envelopes when the font for bar coding is available on the Application Server, these fonts are loaded to XMLP, and the font property is set in the XMLP configuration file (or the font property is set in the template). There are further instructions that can be found in the XML Publisher Core Components Guide. Following is an overview of the steps involved:

1. Place the font on the application server. The font should be in a directory that is accessible to the formatting engine at runtime.
2. Set the XML/BI Publisher font property either in the XML/BI Publisher configuration file or directly within the template, as explained below:

- a. To set the property in the configuration file, update the “fonts” section with the font name and its location on the server. For example, the new entry for a TrueType font is structured as follows:

```
<font family="MyFontName" style="normal" weight="normal">
<truetype path="\user\fonts\MyFontName.ttf"/>
</font>
```

- b. To add property to a template, use the Microsoft Word Properties dialog box and enter the following information:

- Name - enter the XML/BI Publisher property name prefixed with "xdo-"
- Type - select "Text"
- Value - enter the property value. To reference an element from the incoming XML data, enter the path to the XML element enclosed by curly braces. For example:


```
{/root/password}
```

Next, tell XML/BI Publisher where to find the font by setting the "font" property. Assume the font is located in "/tmp/fonts", enter the following in the Properties dialog:

- Name: xdo-font.XMLPScript.normal.normal
- Type: Text
- Value: truetype/tmp/fonts/XMLPScript.ttf

When the template is applied to the XML data on the server, XML/BI Publisher will look for the font in the /tmp/fonts directory. Note that if the template is deployed in multiple locations, verify that the path is valid for each location.

USING A SUB-TEMPLATE

Sub-template files are independently stored, not registered in association with a data source or parent template, and not exposed to the end user at either report design time or runtime.

Microsoft Word does not support form fields in the header and footer. Therefore, you must insert placeholder syntax directly into the template using a sub-template. Sub-templates are useful for containing common formatting, data fields and images that may be used in multiple templates, functioning for ease of reusability. A single sub-template file may contain multiple sub-templates. Following are guidelines for using sub-templates:

- Start and end template indicators must exist to distinguish the various components (e.g. logo, signature) where subtemp equals the name of the sub-template, such as the example below:

```
<?template: subtemp?>
```

```
<?end subtemp?>
```

- When using a sub-template, it needs to be referenced at the top of the parent template:

```
<?import:psxmlp://subtemp_sub?>
```

- For testing purposes while in Template Builder, the sub-template needs to reference a local path, similar to the following example:

```
<!import:file://C:\Documents and Settings\USERNAME\CS Product  
Analysis\3Cs\Template Examples\subtemp.rtf?>
```

(In the template, swap out the syntax of <? for <! to comment out the line.)

- When using a sub-template, it must be registered in the Content Library by navigating to Reporting Tools > XML Publisher > Content Library. When adding a new sub-template ID, it must be the same as the sub-template name used in the import line of the parent template.
- There is no method for viewing which report templates include which sub-templates, other than viewing the parent template. Users should be careful about changing, deleting, or inactivating sub-templates.

Chapter 4 – Creating the Report Definition

Report definitions associate the Communication Data Source with template files. To create a Report Definition, navigate to Reporting Tools > XML Publisher > Report Definition.

DEFINING THE DEFINITION

When creating a new Report Definition, the Data Source Type must be “XMLDoc Object”. In PeopleTools 8.5X, XMLDoc has been deprecated as a data source only for XMLP data sources

created from the Reporting Tools menu. Communication Generation uses Communication Data Sources created from the Campus Community menu only.

On the Definition page, specific settings must be set:

1. Report Status should be set to “Active”.
2. Report Category ID should be “ALLUSER” (unless security has been set up differently).
3. Template Type of “RTF” must be selected. Once the Report Definition is saved, the Template Type cannot be changed.

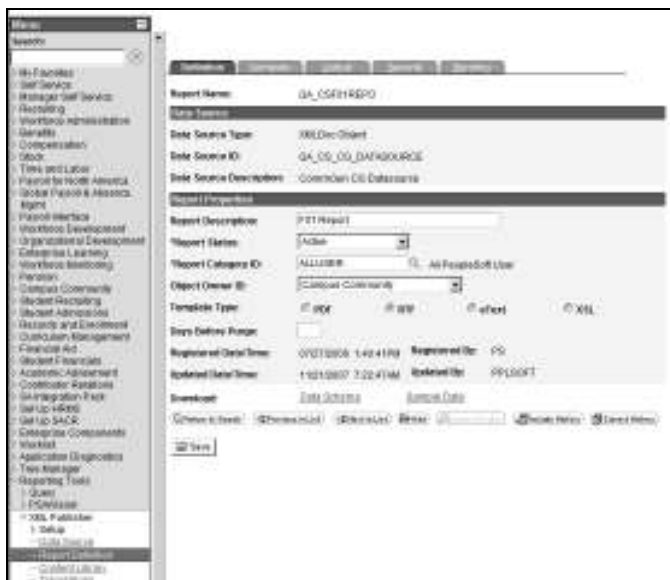


Figure 3: Report Definition – Definition Page

ASSOCIATING A TEMPLATE

Users can associate one or more templates to the report definition. Following are some guidelines:

1. Select the Channel value of “Printer” for hardcopy communication methods. Select “Email” for e-mail communications.
2. At least one template must be active to save a report definition.
3. The Preview button uses the sample XML data file to generate report output. When selected, it generates readable output.



Figure 4: Report Definition – Template Page

REPORT OUTPUT PARAMETERS

On the Output page, the Runtime Output Format Option is limited to using the Default value of “PDF” only for printing. This current limitation is based on the need to convert from PDF to Postscript for printing, as well as functionality relating to enclosures, bursting, and sorting. For e-mail, the default value can be “HTML”.

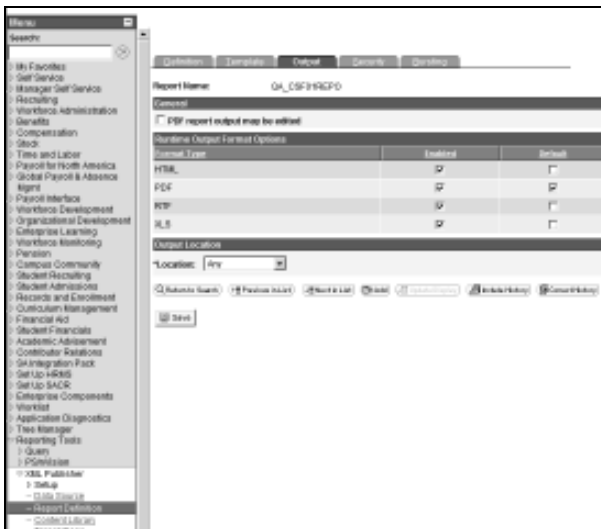


Figure 5: Report Definition – Output Page

SECURITY

The Security page is used to indicate whether the report requestor can add to the standard Distribute To values on the Process Scheduler Request > Distribution Detail page. A user can define the role(s) or user(s) who can both view the web-posted output in the Report Manager repository and use the XML Publisher Report Repository Search page by navigating to Reporting Tools > XML Publisher > XMLP Report Search.



Figure 6: Report Definition – Security Page

BURSTING

Bursting is an optional, advanced feature available when reports are run through the Process Scheduler. When a bursted report is generated, the process creates separate files for each unique data value for a specified field tag. Refer to Enterprise PeopleTools 8.XX PeopleBook: XML Publisher for PeopleSoft Enterprise > Defining Report Definitions for detailed information relating to this functionality.

- (Navigation: Set Up SACR > Product Related > Campus Community > Establish People Processing > Setup > Joint Salutation Type Table).
2. Set the Default Salutation Type on the Installation Defaults - CC page (Navigation: Set Up SACR > Install > Campus Community Installation > Installation Default – CC).
 3. Create joint usages on the Name Usage page (Navigation: Set Up SACR > Product Related > Campus Community > Establish People Processing > Setup > Name Usage Table).
 4. Review and update Relationship data by navigating to Campus Community > Personal Information > Biographical > Relationships > Relationships to set the relationship to Create Joint Communication, define the joint salutation, and identify the address to use for the Joint Address functionality.

For joint communications, the communication should be assigned to only one of the individuals. If it is assigned to both, the process extracts the data for both IDs and generates two joint communications for the same two IDs.

INCORPORATING ENCLOSURES

The enclosure must have 3Cs set up exactly like the letter. This includes a Communication Context, Communication Category, Speed Key and 3Cs security, as well as user defaults updated, to associate the enclosure to the letter. The letter and all associated enclosure(s) must be assigned to the recipient.



Figure 8: Standard Letters Page



Figure 10: 3C Engine – 3C Engine Parameters Page

- b. Online Triggers – User Profiles Management Process and Contributor Relations Gift Acknowledgement Process

The PeopleSoft Process Scheduler is used to run the 3C engine process. A user can run the process by selecting the IDs stored in the Trigger Table results, or by selecting the IDs using Mass Change Definitions or Population Selection, or a combination of the three. Familiarity of using this feature is recommended to generate communication assignments systematically.

You can view the individual communication record (which has not yet been set to complete) by navigating to Campus Community > Person Communications > Communication Management or Campus Community > Organization Communications > Communication – Organization. You may also find it beneficial to create a query to verify the results using the COMMUNICATION record.

Chapter 7 – Run Communication Generation

Navigate to Campus Community > Communications > Communication Generation to run the Communication Generation process. Running this process requires that parameters be set up on the Selection Parameters and Process Parameters pages. When e-mail correspondence will be sent, the Email Parameters page must be set up. Lastly, when checklists are affiliated with the communication, the Checklist Parameters page should be completed.

DEFINING SELECTION AND PROCESS PARAMETERS

On the Selection Parameters page, a user has the option to select All IDs, All Org IDs, All Person IDs, One Org ID, One Person ID, or Population Selection. Since multiple report

definitions can be associated to one Letter Code, the Report Name link allows a user to select which report to use at run time.

When the main letter code includes softcopy enclosures for the ID(s), the system populates each enclosure code and its relevant information in the Enclosures Assigned (Softcopy) section. It is good practice to click the Refresh Enclosure List to capture any changes to the required enclosures relating to the main letter code each time the same run control ID is run.

To identify the template for the Communication Generation Process to use, the Language and Method need to be selected.

Template ID	Report Name	Language	Method	Default Template
QA_CS_FET_TEMPLATE_ENG	QA_CS_FET_TEMPLATE_ENG	English	Letter	<input type="checkbox"/>
QA_CS_FET_TEMPLATE_ENG_EMAIL	QA_CS_FET_TEMPLATE_ENG_EMAIL	English	E-Mail	<input type="checkbox"/>
QA_CS_FET_TEMPLATE_FRA	FET Template French	French	Letter	<input type="checkbox"/>
QA_CS_FET_TEMPLATE_FRA_EMAIL	FET Template French Email	French	E-Mail	<input type="checkbox"/>

Figure 11: Communication Generation – Selection Parameters Page

On the Process Parameters page, if All IDs is selected, both the Person Communication Usage and Org Communication Usage sections must be completed. Org Communication Usage values can be set up by navigating to Set Up SACR > Product Related > Campus Community > Establish People Processing > Setup > Organization Recipient Usage. If All Person IDs or One Person ID is selected, the Person Communication Usage section needs to be completed. If All Org IDs or One Org ID is selected, the Org Communication Usage section needs to be completed.

The Joint Name field is available when the letter code is set to permit joint communications as defined in the Name Usage Table.

IMPORTANT: When sending e-mail communications, the Address must contain an e-mail address usage type.

Following are options which can be selected in the Output Settings section:

- Online Preview – Preview a sample of a letter output online by navigating to PeopleSoft Report Manager > Administration page (Note: When All IDs selected, this only selects the first 10 IDs and their enclosures and recipients). This option does not cause communications to be marked completed and no information is entered in the Person or Organization Communication Management components. When the communication method usage is E-Mail or Preferred, then an Email Address field appears. When an e-mail address is entered, the process converts the output to HTML format and sends sample(s) of the generated output to the specified e-mail address and to Report Manager. To view the format as a letter, remove the e-mail address and rerun the process.
 - Send to Printer – Enter the path to the printer (Example: \\<10.987.654.321>\printer_name\). (Note: Configuration is required to access a network printer by updating the BEA service to use a network account).
 - Send to File – Enter the file path where the output goes in a Process Scheduler server directory location (Example: \\<server.edu>\dfs\dept\peoplesoftdata\).
- (Note: Create envelopes and create labels are discussed in a later section.)

The screenshot displays the 'Communication Generation - Process Parameters' page in PeopleSoft. The interface includes a left-hand navigation menu with categories like 'By Parameter', 'By Process', and 'By Report'. The main content area is divided into several sections:

- Process Parameters:** Includes 'Run Control ID' (set to 'P0') and buttons for 'Report Manager', 'Process Monitor', and 'Run'.
- Design Tables:** Contains dropdown menus for 'Primary Communication Usage', 'Address Name', 'Selections', and 'Extra Name'.
- Communication Parameters:** Includes 'Communication Usage', 'Add Station', 'Org Communication Usage', 'Org Department', and 'Contact Name'.
- Communication Print Range Selection:** Features 'From Date' and 'To Date' fields.
- Update Communication Consistent Data With:** Includes checkboxes for 'Communication Date', 'System Date', and 'User Supplied Date'.
- Update Communication Encrypted Data With:** Includes checkboxes for 'Communication Date', 'System Date', and 'User Supplied Date'.
- Output Settings:** Includes a 'Sort Order' dropdown (set to 'Country, FNAME'), checkboxes for 'Online Preview', 'Send to Printer', 'Send to File', 'Create Envelopes', and 'Create Labels', and checkboxes for 'Display Critical Data', 'Produce Communications', and 'Complete Communications'.

At the bottom, there are buttons for 'Save', 'Return to Search', 'Help', 'Add', and 'System/Context'.

Figure 12: Communication Generation – Process Parameters Page

DEFINING EMAIL PARAMETERS

The From and Subject parameters are required. For the From e-mail address, it does not have to be valid; however, it requires the character of “@”. If it is not valid, it is recommended that the

template include text clarifying this. If the Reply to parameter is used, the value should be a valid e-mail address (overriding the From e-mail address).

Figure 13: Communication Generation – Email Parameters Page

DEFINING CHECKLIST PARAMETERS

The Checklist Parameters page provides flexibility to users, including the option to use multiple administrative functions, checklist types, checklist codes, checklist statuses, tracking groups, group statuses, and checklist item statuses.

The Communication Generation process checks for the existence of at least one administrative function before attempting to extract any checklist information. Whether or not one exists, the CHECKLIST_ITEMS folder will be part of the extract with “numrows = x” populated. This is to satisfy the requirement for schema validation.

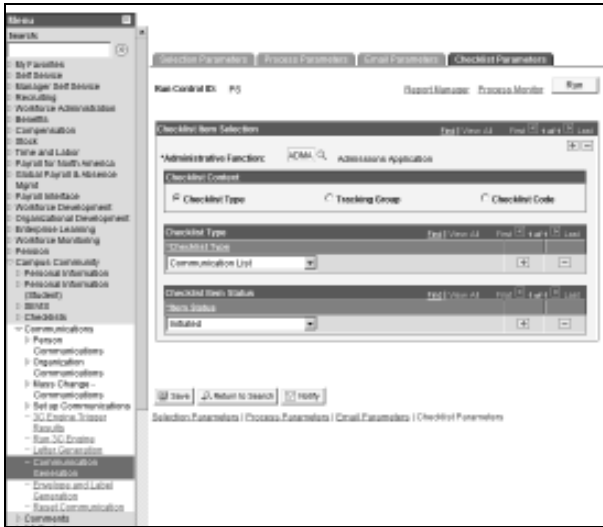


Figure 14: Communication Generation – Checklist Parameters Page

Chapter 8 – Reset Communication Generation Process

The Reset Communication run control is an application engine process called SCC_CG_RESET. Navigation to run this process is Campus Community > Communications > Reset Communications.

PURPOSE

The Reset Communication Generation process enables users to reset communications records by clearing the Communication Outcome data (e.g. Communication Completed check box) and processing tables so that the Communication Generation process can be run again if it ended abnormally or an incorrect selection, such as a Template ID, was used.

When the run status of the process instance number is Success, the process clears all information that was added to the communication record for each generated ID. When the result status is No Success, Warning, Delete, Error, or Cancelled, all the processing tables are cleared so the Communication Generation process can be run again.



Figure 15: Reset Communication Page

Chapter 9 – Envelope and Label Generation

Envelopes and labels can be generated using two different options: (1) as an option on the Process Parameters page of the Communication Generation component, or (2) by running the Envelope and Label Generation process (an Application Engine process, SCC_CGLABELS).

REQUIREMENTS

The same setup for a letter communication is required for envelopes and labels, including defining a Communication Data Source, Template, and Report Definition.

GENERATION OPTIONS

When using the Communication Generation process to generate envelopes and labels, the process reuses the data extracted for the parent letter code report definition to merge with the envelope or label template. Normally, the letter code is set to save data to the communication record. When the Create Envelopes option is selected, the respective envelope is saved within each processed ID's Communication Management component. The Create Labels option does not allow for saving the respective label within the Communication Management component.

When using the Envelope and Label Generation process (Navigation: Campus Community > Communications > Envelope and Label Generation), the output can be generated for a hardcopy communication that does not have a template (e.g. postcard) or using the data assigned from a previous Communication Generation process. Envelopes can be rerun without resetting and regenerating the communication. The process recognizes and processes communications only

completed by the Communication Generation or Envelope and Letter Generation processes. The Communication Data Source associated with the Report Definition can use a different administrative function with this process.

If more data is needed for either envelope or label template, the data must be extracted by modifying the Communication Data Source.

The available styles appear in a drop-down menu next to the font selection box on the Formatting toolbar. In Microsoft Word 2007, click Ctrl+Shift+S to display the Apply Styles dialog box. Choose the style from the drop-down menu and then click Apply.



Figure 16: Envelope and Label Generation – Selection Parameters Page

Appendix A – Administrative Functions, Core Records, and Variable Data

The following table provides details relating to the relationship of each administrative function and its core records and variable data used for extracting communication data.

Administrative Function Code	Administrative Function	Core Record	Variable Data Fields
ADMA	Admissions Application	ADM_APPL_DATA	ACAD_CAREER STDNT_CAR_NBR ADM_APPL_NBR
ADMP	Admissions Program	ADM_APPL_PROG	ACAD_CAREER STDNT_CAR_NBR ADM_APPL_NBR APPL_PROG_NBR
AVAK	Advancement Acknowledgements	AV_RCG_DES	BUSINESS_UNIT DESIGNATION GIFT_NO INTV_CD RECOGNITION_TYPE SESSION_NO
AVIN	Advancement Initiatives	AV_INITIATIVE	AUD_TYPE AV_AUDIENCE INTV_CD
AVMS	Advancement Membership	AV_MEMBERSHIP	AV_MBR_ORG_COD BUSINESS_UNIT MEMBERSHIP_NBR
AWRD	Awarding	STDNT_AWARDS	ACAD_CAREER AID_YEAR ITEM_TYPE
EVNT	Event	EVENT_MTG	CAMPUS_EVENT_NBR EVENT_MTG_NBR
FINA	Financial Aid	STUDENT_AID	AID_YEAR
GEN	General		
IHC	International Health Coverage	SSF_IHC_STDNT	SSF_IHC_COVER_NBR
ISIR	ISIR Corrections	ISIR_CONTROL	AID_YEAR EFFDT_VAR EFFSEQ_VAR

Administrative Function Code	Administrative Function	Core Record	Variable Data Fields
LOAN	Loan	LOAN_ORIGNATN	AID_YEAR ACAD_CAREER LN_APPL_ID LN_APPL_SEQ LOAN_TYPE
PROP	Prospect Program	ADM_PRSPCT_PROG	ACAD_CAREER ACAD_PROG
PROS	Prospect	ADM_PRSPCT_CAR	ACAD_CAREER
PSSV	Prospect Self Service	ADM_PRSPCT_CAR	ACAD_CAREER
RECR	Recruiters		ACAD_CAREER
RSTR	Restricted Aid	STDNT_RSTRC_AID	AID_YEAR RESTRICTED_AID_ID
SFAC	Student Financials Account	ACCOUNT_SF, ACCOUNT_ORG_SF	ACCOUNT_NBR ACCOUNT_TERM BUSINESS_UNIT
SFBI	Student Financials Billing	BI_BILL_HEADER	BUSINESS_UNIT INVOICE_ID
SFCO	Student Financials Collections	COLLECTION_SF	BUSINESS_UNIT COLLECTION_ID
SFGR	Student Financials Groups	GROUP_CONT_INFO	BUSINESS_UNIT GROUP_ID_SF
SFIT	Student Financials Item Lines	ITEM_LINE_SF	BUSINESS_UNIT ITEM_NBR LINE_SEQ_NBR
SFPA	Student Financials Payments	PAYMENT_TBL	BUSINESS_UNIT PAYMENT_ID_NBR
SFRC	Student Financials Receipt	CSH_OFF_RECEIPT	BUSINESS_UNIT CASHIER_OFFICE RECEIPT_NBR
SFRF	Student Financials Refund	REFUND_HDR	BUSINESS_UNIT REFUND_NBR
SFTP	Student Financials Contracts	TP_STUDENT TP_CONTRACT	BUSINESS_UNIT CONTRACT_NUM
SPRG	Student Program	ACAD_PROG	ACAD_CAREER STDNT_CAR_NBR
STRM	Student Term	STDNT_CAR_TERM	ACAD_CAREER STRM

Appendix B – Diagnosing Common Errors

Following are tables to assist in diagnosing and troubleshooting common errors and issues relating to the Communication Generation process:

COMMUNICATION DATA SOURCE COMPONENT (SCC_CG_DTASRC)	
Error or Issue	How to Resolve
"No Report Definitions found. Make sure Letter Code is properly set up. (14100,878) SCC_COMMGEN.Model.DSAdapters.PSQueryAdapter.OnExecute Name:Validate PCPC:1684 Statement:31 Process 10276 ABENDED at Step SCC_COMMGEN.Process.Step20 (PeopleCode) -- RC = 24 (108,524)".	Remove the value in the Set Letter Code field on the Standard Letters page by navigating to Set Up SACR > Common Definitions > Communications > Standard Letter Table CS.
Cannot find Query to select as Communication Data Source.	The query needs to have a core record relating to the administrative function (see Appendix A).

COMMUNICATION GENERATION COMPONENT (SCC_CG_RUNCTL)	
Error or Issue	How to Resolve
"Organization Recipient Usage is Required. (14000,459)".	When All IDs is selected, organization parameters must be populated on the Process Parameters page. To avoid this error, navigate to Set Up SACR > Product Related > Campus Community > Establish People Processing > Setup > Organization Recipient Usage and add a usage.
Cannot retrieve Letter Code on Communication Generation > Selection Parameters page.	The speed key needs to be added to the User Defaults component by navigating to Set Up SACR > User Defaults > Communication Speed Keys.

COMMUNICATION GENERATION PROCESS (SCC_COMMGEN)	
Error or Issue	How to Resolve
"Error generating output file for letter communication. (14100,734)".	This may be an issue when the web server, app server, and process scheduler are on 3 separate machines. Please refer to Knowledge Doc ID 661121.1 for solution.
"Error generating report output: During calling method PTFOProcessor.generateOutput, the XDO engine throws an exception: NULL. (235, 3101) (235,2309)."	This may be an issue when the web server, app server, and process scheduler are on 3 separate machines. Please refer to Knowledge Doc ID 661121.1 for solution.

COMMUNICATION GENERATION PROCESS (SCC_COMMGEN)	
Error or Issue	How to Resolve
"Error removing directory \\PSTST43\PSLS\fred\CG_167886: file or one of its subdirectories was not removable: The specified directory could not be removed. (2,828)".	This may be an issue when the web server, app server, and process scheduler are on 3 separate machines. Please refer to Knowledge Doc ID 661121.1 for solution.
"No valid queries found in the first 300 items evaluated."	The query used with the Communication Data Source, which should be used to select the additional data that is needed for the letter or e-mail, should include a prompt for each of the variable data items relating to the administrative function (see Appendix A).
"PSPAL: Abort: Unrecoverable signal 22 received PSPAL: Abort: Location: e:\pt849-903-R1-retail\peopletools\src\pspal\exception_winunhandle.d.cpp:357: PSPAL::UnhandledExceptionFilter::SignalExceptionFilter"	In the process scheduler definition, add Java parameters for max and min JVM.
Unable to extract e-mail addresses to send communications.	On the Communication Generation > Process Parameters page, address type usage selected must contain at least one e-mail type. To add or modify an address type, navigate to Set Up SACR > Product Related > Campus Community > Establish People Processing > Setup > Address Usage Table.

COMMUNICATION MANAGEMENT COMPONENT (COMM_MANAGEMENT)	
Error or Issue	How to Resolve
Unable to clear Process Instance in communication record.	Run the Reset Communication process by navigating to Campus Community > Communications > Reset Communication.

REPORT DEFINITION COMPONENT (PSXPRPTDEFN)	
Error or Issue	How to Resolve
"Error generating report output: During calling method PTFOProcessor.generateOutput, the XDO engine throws an exception: NULL. (235, 3101) (235,2309). Error occurred during the process of generating the output file from template file, XML data file, and translation XLIFF file."	The Channel on the Report Definition Template page needs to be set to "Printer" for letters or "HTML" for email. On the Output page, the location should be set to "Any".

REPORT DEFINITION COMPONENT (PSXPRPTDEFN)	
Error or Issue	How to Resolve
Cannot open the Report Definition component online. User gets "Invalid XSD File: Expected 'EOF'. (235,18) This XSD file is not valid. Please correct the error and upload again."	The Data Source may be corrupt. Create a new Communication Data Source, register the Data Source, create a new Report Definition, attach the template, and run the Communication Generation process.
Cannot select a Data Source Type when adding a new Report Definition.	There is an issue with security access. The User ID must have the delivered Security Role 'XMLP Report Developer', which includes PTPT2600.
Cannot view output after clicking Preview button on Report Definition > Template page.	There may be a problem with the SQL relating to the query being used as part of the Data Source (e.g. missing core record relating to the administrative function, prompt for EMPLID needs the Unique Prompt Name changed to PERSON_ID, prompts needed for variable data).

Appendix C – Resources

- DEFINING IF-THEN-ELSE STATEMENTS IN MICROSOFT WORD
([HTTP://OFFICE.MICROSOFT.COM/TRAINING/TRAINING.ASPX?ASSETID=RP011205961033&CTT=6&ORIGIN=RP011205871033](http://office.microsoft.com/training/training.aspx?assetid=RP011205961033&CTT=6&ORIGIN=RP011205871033))
- [HTTP://BIPUBLISHER.US.ORACLE.COM/](http://BIPUBLISHER.US.ORACLE.COM/)
- KNOWLEDGE DOC ID 661121.1 COMMUNICATIONS USING COMMGEN/XML PUBLISHER ARE NOT WRITING OUT PROPER .PDF FILES
- KNOWLEDGE DOC ID 662777.1 XMLP: ERROR WHEN PUBLISHING XML – THE SYSTEM CANNOT FIND THE PATH SPECIFIED
- KNOWLEDGE DOC ID 662933.1 E-XMLP HOW TO USE BURSTING AND MULTIPLE TEMPATES
- KNOWLEDGE DOC ID 663070.1 E-XMLP: GETTING ERROR “ERROR GENERATING REPORT OUTPUT: (235,2309)”
- KNOWLEDGE DOC ID 664523.1 E-XMLP REPORTS GET OUTFOMEMORYERROR AND GENERATES HEAPDUMP AND JAVACORE FILES
- KNOWLEDGE DOC ID 962712.1 E-XMLP PERFORMANCE TUNING XMLP REPORTS
- ORACLE UNIVERSITY COURSE OFFERINGS

Appendix D – Revision History

1. 8-February-2010: Completed first draft of document.
2. 9-February-2010: Submitted for review.
3. 26-February-2010: Submitted for final review.
4. 3-March-2010: Posted to My Oracle Support.



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