



Stream Administrator Workflow Guide



©2009 by Cleo Communications All Rights Reserved. No part of this manual may not be reproduced, transmitted, transcribed, or stored in a retrieval system in any form or by any means without the written permission of Cleo Communications.

Stream is a registered trademark of Cleo Communications.

Stream Center is a trademark of Cleo Communications.

Windows NT is a registered trademark of Microsoft Corporation. Other brand names and product names are trademarks or registered trademarks of their respective owners.



4201 Galleria Drive

Rockford, IL 61111

Voice: (800) 325-7732

Fax: (888) 724-1021

Workflow Generation

1

Stroom Center manages voice and fax communications from the perspective of an information workflow, and improves the way fax information is generated, distributed, received, stored, and archived in the corporate environment. A workflow is a logical step process for creating fax communication jobs.

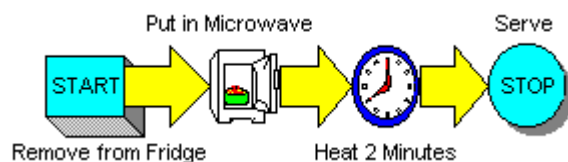
This process takes over many of the tasks you formerly had to do manually, by integrating several steps into a single workflow. Workflows can schedule and initiate fax broadcasts, control fax on demand applications, gather information from and place information into databases, prepare and deliver reports, and interact with external programs.

Stroom Center allows you to custom design and maintain workflows for your unique needs. It also includes a collection of ready-to-use workflows. To manage workflows, you will use the Workflow Generator module. Here you construct new workflows, and modify existing workflows.

More About Workflows

Try to visualize a workflow as a set of general instructions for accomplishing a job. Any task involving a series of steps can be diagrammed as a workflow. For example, to prepare lunch:

1. Remove the food from the refrigerator.
2. Put the food into the microwave.
3. Heat on high for two minutes.
4. Serve the food.



Each activity or step is called an item in the workflow. This sample workflow has four items. (Workflows can be made up of dozens of items; they can even fork, so separate items take place simultaneously.)

Because a workflow is a generalized model or pattern, it can be applied again and again to do specific jobs. In the lunch example, you could heat tomato soup one day and chow mein the next day using the same workflow. Each time a workflow is put into action to do a specific job, it creates an instance, or copy, of the workflow. Each instance of a workflow runs independently of any other instances that may run before it, after it, or simultaneously with it.

The workflows that direct Stroom Center's fax/voice communications activities are more technical than this, but the same principles apply. In a Stroom Center workflow, blocks represent the steps of executing a fax-on-demand application or connecting to an email application. You combine blocks in a sequence to accomplish specific tasks. Available blocks, each representing a workflow item, include:

- High-level tasks such as broadcast initiation
- Polling directories for files
- Running fax on demand applications

- Distributing incoming calls
- Making email, FTP, and MAPI connections
- Preparing and printing reports

In summary, workflows are the heart of Stroom Center. They direct all activities of the system.

Stroom Center supports three versions of any workflow: a Test version, a Production version, and a Previous Production version. This gives you flexibility in creating and modifying workflows and allows you to safely modify and test workflows before putting them into action.

Building Workflows 2

This section describes the Workflow Generator and how you use it to create workflows. By looking at a few of the standard workflows provided with Stream Center, you will get a better idea of how workflows can be used to handle fax tasks. Finally, you will assemble a workflow test it and put it into production.

The Workflow Generator Items

When you place a workflow item, you may double-click it to open its properties dialog. The dialog allows you to specify parameters or properties for that item. The following section shows the workflow items along with their associated properties:



Start - Begins a workflow. This item is required to be the first activity of every workflow and is automatically placed for you when creating a new workflow.

NO PROPERTIES.

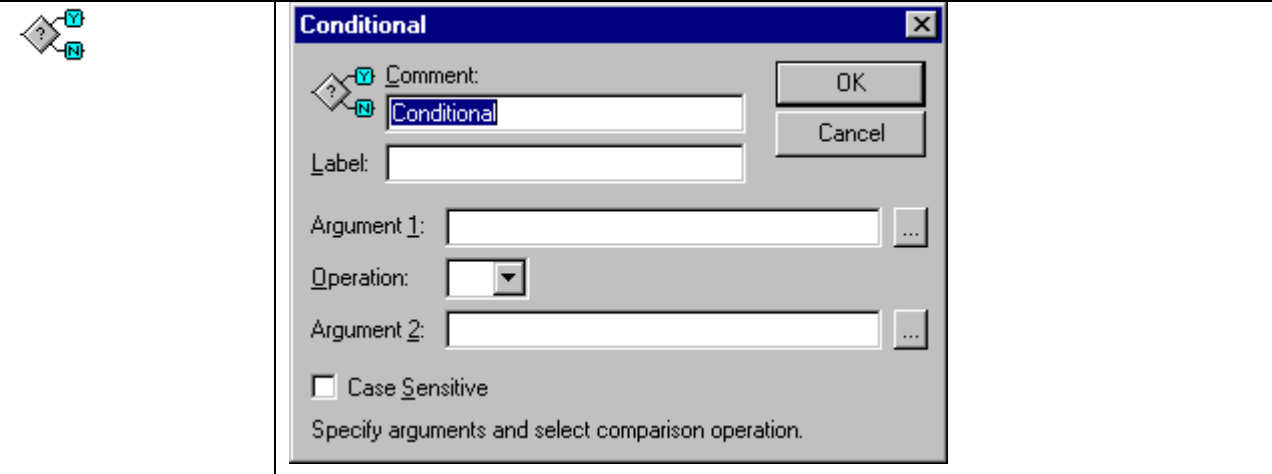


Stop - Ends a workflow.

NO PROPERTIES.

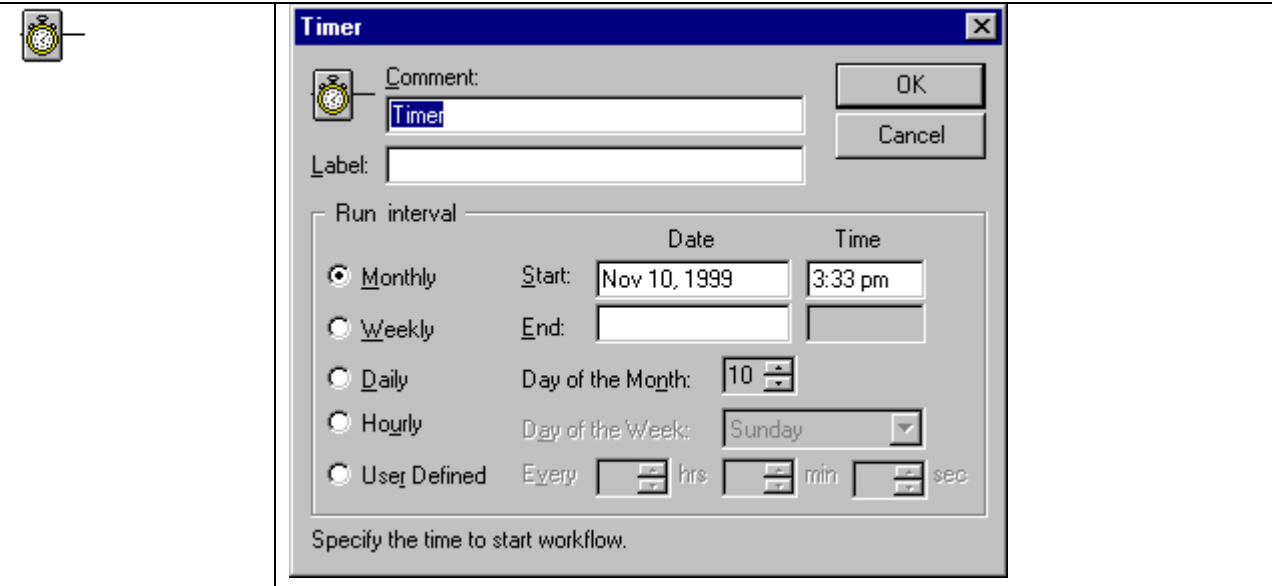
Conditional - Compares two arguments (Operand 1 against Operand 2) and takes a specific action determined by whether the comparison is true or false. Operation verification can be equal (=), not equal (!=), less than (<), greater than (>), less than or equal to (<=), or greater than

or equal to (>=). Exits via the (Y)es link if the operation is true or via the (N)o link if the operation is false.


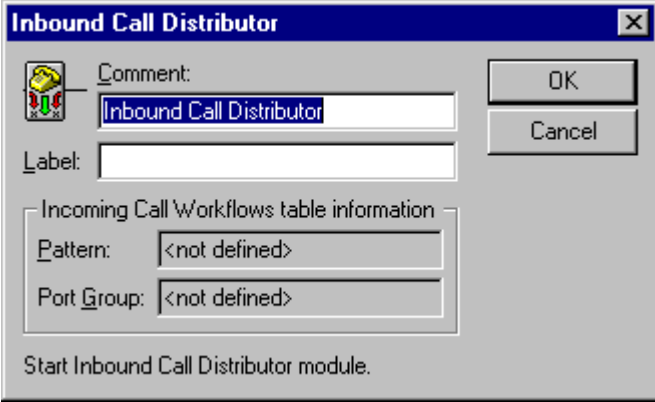


Features	Description
Case sensitive	(Default – Unchecked)


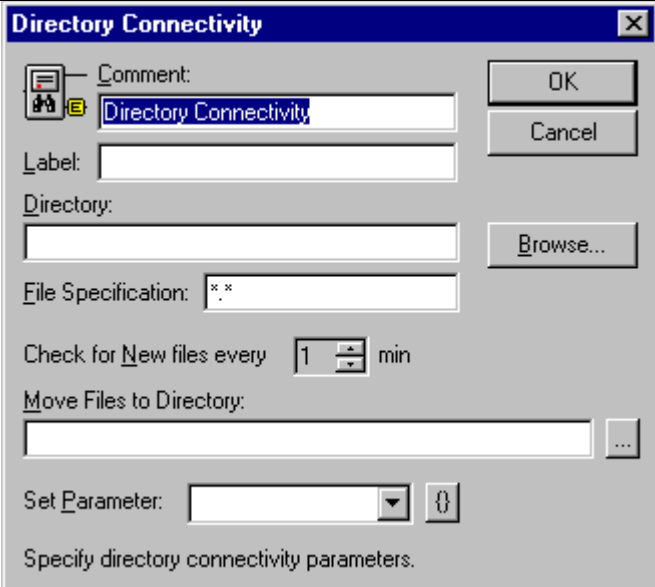
Timer - Determines when an activity should begin and end. This item initiates a workflow at the run interval (hours/minutes/seconds, hourly, daily, weekly, or monthly) you specify, on the date/time you indicate for it to begin and end.



Inbound Call Distributor - Processes calls as they come into the system. See **Error! Reference source not found.** for information on how to access the Incoming Call workflow table.


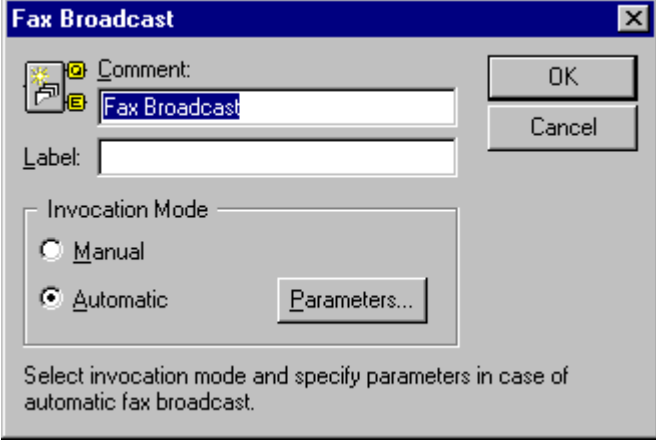
	
<p><i>Features</i></p>	<p><i>Description</i></p>
<p>Save to Directory</p>	<p>Where incoming fax file is saved.</p>
<p>Set Parameter</p>	<p>Where fax file name and path will be stored.</p>
<p>Strip Header</p>	<p>Deletes header in incoming fax transmission.</p>

Directory Connectivity - Specifies the directory to locate new files. Exits via the Normal link if a file is picked up and moved to the specified Work directory, via the (E)rror link if we could not post the broadcast or System error occurs.


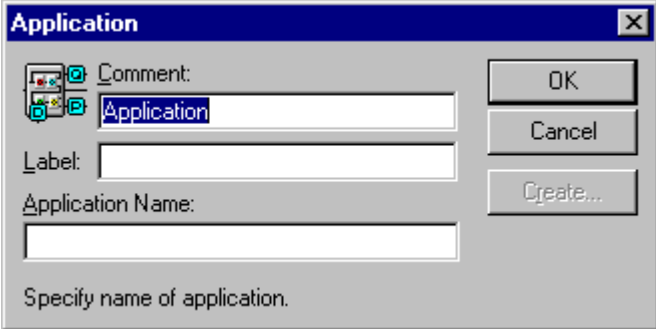
	
<p><i>Features</i></p>	<p><i>Description</i></p>
<p>File specification</p>	<p>Specifies name of file where wild cards (for example, * and ?) are defined.</p>
<p>Check for New files every</p>	<p>Specifies the number of minutes, x (up to 60 minutes) that checks will be made for new files.</p>

Move Files to Directory	Specifies the work directory.
Set Parameter	Specifies the name and path of the file after it has been moved.


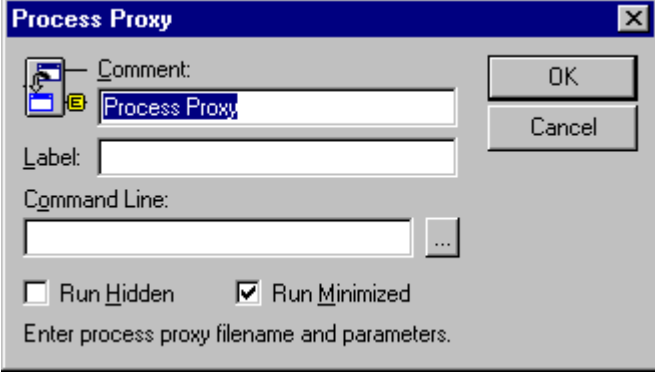
Fax Broadcast - Sets up the documents, distribution list, and other parameters for a fax broadcast to send. Exits via the **(Q)**ueue link to the Outbound Fax Queue block, via the **(E)**rror link if the broadcast could not be posted or system error results.

	
<p><i>Features</i></p>	<p><i>Description</i></p>
<p>Invocation Mode Manual</p>	<p>Initiated by Fax Broadcast Tool.</p>
<p>Invocation Mode Automatic</p>	<p>Initiates Fax Broadcast Tool with parameters (distribution list(s) and document(s) to be sent). See Ad Hoc Fax Broadcast.</p>


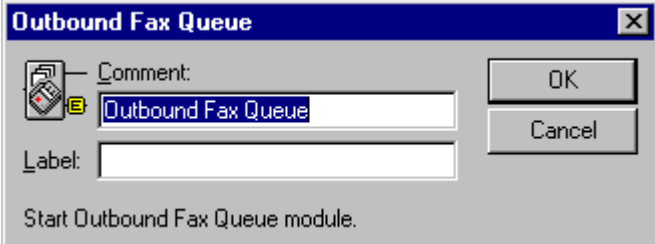
Application - Starts a fax on demand or other IVR application. Exits via Normal link if application completed, via the **(Q)**ueue link to Outbound Fax Queue if application posted to the Fax Queue, or via **(P)**rocess proxy link if the application is external. **(D)**atabase link is no longer necessary or functional.


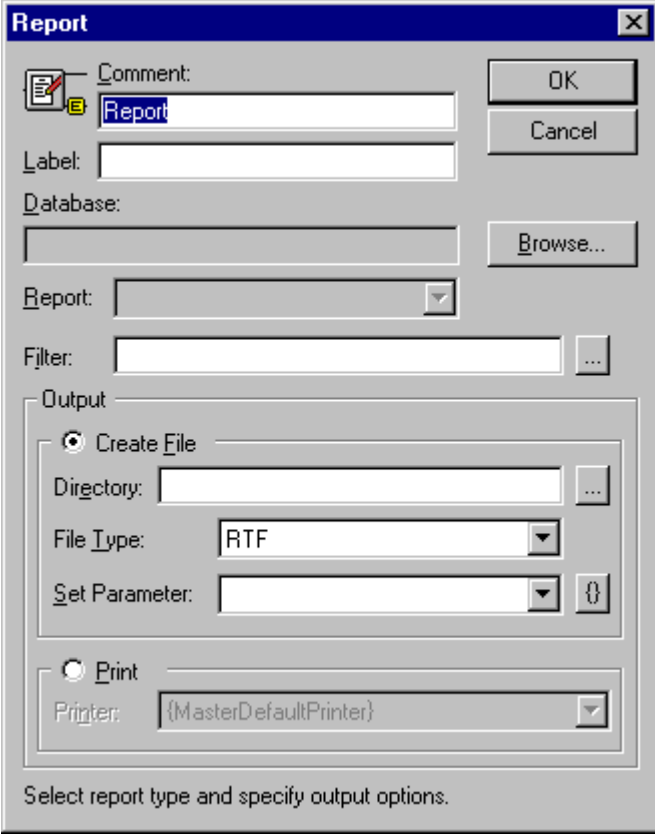
	
---	--

Process Proxy - Invokes an external program. Exits via Normal link if program ran without error or via (E)rror link if program returned error code.

	
<i>Features</i>	<i>Description</i>
Command line	Specifies external programs and their parameters.
Run Hidden	(Default – Unchecked). Hides invoked command line programs.
Run Minimized	(Default – Checked). Runs invoked programs in a minimized window.


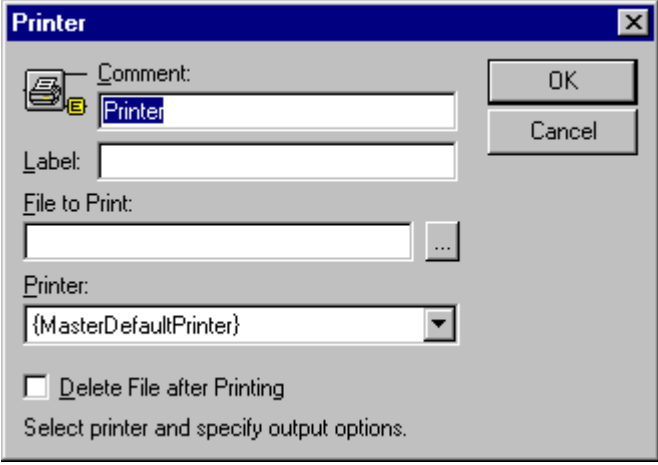
Outbound Fax Queue - Places an outgoing fax into a queue for transmission while holding the workflow until all destinations have finished processing (sent successfully or the number of retries specified were exhausted). Exits via the Normal link if job was successful or via the (E)rror link if cancelled by the Fax Queue or a system error occurs.

	
---	--

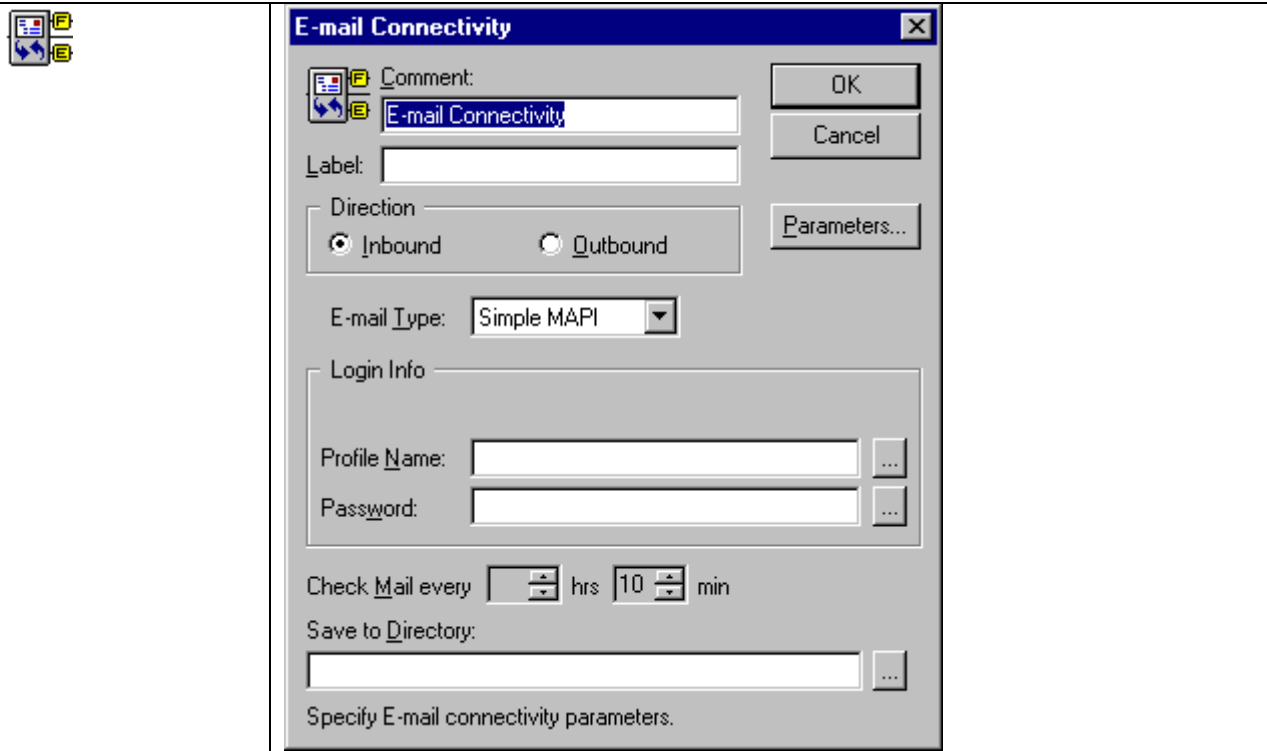
Report - Prepares a report from an MS Access database.	
	
<i>Features</i>	<i>Description</i>
Database	Allows you to specify an MDB or ADP MS Access file type.
Report	Displays all available reports after selecting the database type.
Filter	Allows you to display certain records instead of the entire record set. The filter syntax is: <FieldName>=<workflowparameter> Workflow parameters can be used.
Output	Allows you to select either Create File or Print. Exits via the Normal link if the report ran without error or via the (E)rror link if program returned any error code.

	<i>Option</i>	<i>Description</i>
	Create File	Creates an output file in the specified Directory of the specified File Type [.rtf (default), .html, .txt, and .tiff].
	Print	Select an installed printer from the Printer combo box. Default printer is Stream Center's .tiff printer driver: {MasterDefaultPrinter}
Set Parameter	Specifies a user-defined parameter name and path for the file that is created.	

Printer - Prints a file. Exits via the Normal link if print job ran without error or via the (E)rror link if program returned any error code.


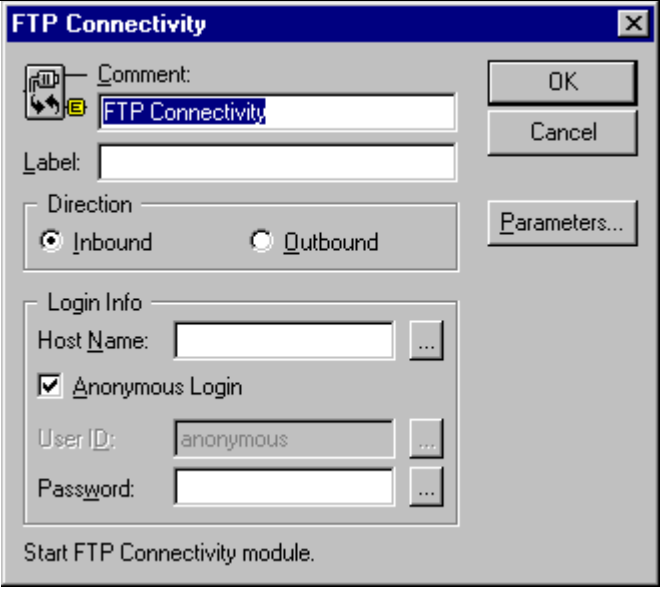
	
<i>Features</i>	<i>Description</i>
File to Print	Specifies the TIFF image to print. TIFF is the only printable image type.
Printer	Select the printer to be used from the Printer combo box. Stream Center's printer driver is the default: {MasterDefaultPrinter}.
Delete File After Printing	(Default – Checked)

Email Connectivity - Receives or sends files via email. With the “F” exit, your application will exit upon a logon failure. All other exits exit via the (E)rror exit.



<i>Type</i>	<i>Common Features</i>	<i>Description</i>
Inbound (MAPI, Simple MAPI, Internet). Exits via the Normal link if message processed successfully or via the (E)rror link if any of the files specified do not exist or a system	Check Mail	Checks for mail on the interval of every minute to 23 hours and 59 minutes.
	Save to Directory	Stores incoming files for processing, temporarily.
	Number of Docs	Refers to the file attachment name that Stream Center renames by adding a 2-digit number to followed by the original document extension (that is, .DOC, .RTF, .TXT, etc.).
<i>Type</i>		<i>Description</i>

<p>error occurred.</p>	<p>MAPI and Simple MAPI</p>	<p>Retrieves messages from amil system. Features are: Email Type (Simple MAPI or MAPI) – Select email type according to the MAPI compliant mail system you are using. Use MAPI if the mail system supports Extended MAPI. Login Info for MAPI – Used with client software profile (Outlook). The password will be shown as asterisks. Parameters Button – To folder option will be removed and is not functional.</p>
	<p>Internet</p>	<p>Retrieves message from POP3 server. Features are Email Type Internet – Can be used if MAPI is not available as an option on mail server</p>

FTP Connectivity - Receives or sends files via FTP.		
		
<i>Type</i>	<i>Common Features</i>	<i>Description</i>
Inbound and Outbound	Login Info	Specify Host Name as either actual host name if DNS or an IP address.
	Anonymous Login	(Default - Check) If unchecked, the name and password can be specified. The password will be displayed as asterisks.
<i>Type</i>	Description	
Inbound	Picks up a file from an FTP (file transfer protocol) site and moves this file to a working directory.	
	<i>Features</i>	<i>Description</i>
	Host Directory	Specifies where we look on the FTP site to retrieve the file.
	File Specification	Specifies the name of the file to be retrieved. Wild cares can be used here (*, ?).
	Check for New Files Every	Specifies x number of minutes (up to 60 minutes).
	Move Files to Directory	Specifies the working directory.
	Set Parameter	Specifies the name of the file after it has been moved, including the path.
<i>Type</i>	Description	
Outbound	Drops a file on an FTP (file transfer protocol) site.	
	<i>Features</i>	<i>Description</i>

	Host Directory	Specifies where to copy the file on the FTP site.
	Files to Send	Specifies the file to be copied to the FTP site.
	Delete Files After Send	(Default – Checked).

Deliver to MS Exchange - Delivers a fax to a Microsoft Exchange client. Exits via Normal link if message processed successfully or via the (E)rror Link if any system error occurred.

<i>Features</i>	<i>Description</i>
Service Directory	Specifies the directory where the file being delivered is to be dropped. The FL Exchange Gateway picks up the file for delivery.
Fax Number	Specifies the DID (Direct Inward Dial) number of recipients as captured by the CalledNumber parameter. The MSFAX address type I n the form of @941-643-8795. However, if the called number is only 4-digits, it will be translated in this box as: {CalledNumber};????>@941-643-????
From Name	Specifies the name displayed in the From Field of the email being sent.
File to Deliver	Specifies the received fax image attached to the recipient
Subject	Specifies the Fax from CSID (remote fax machine's id) usually but can be anything.
Voice Mail Notification	(Default – Unchecked). Used to call the recipient and leave a message notifying them of a new fax. The voice mail information is retrieve from the Stream Center's MS Exchange gateway and stored in parameters.

Fax from MS Exchange - Sends a fax from Microsoft Exchange. A return receipt is automatically generated with the internal email address of the sender in the parameter NotificationAddress. Exits via Normal link if application completed successfully or via the (Q)ueue link to the Outbound Fax Queue block if the job posted to Fax Queue.

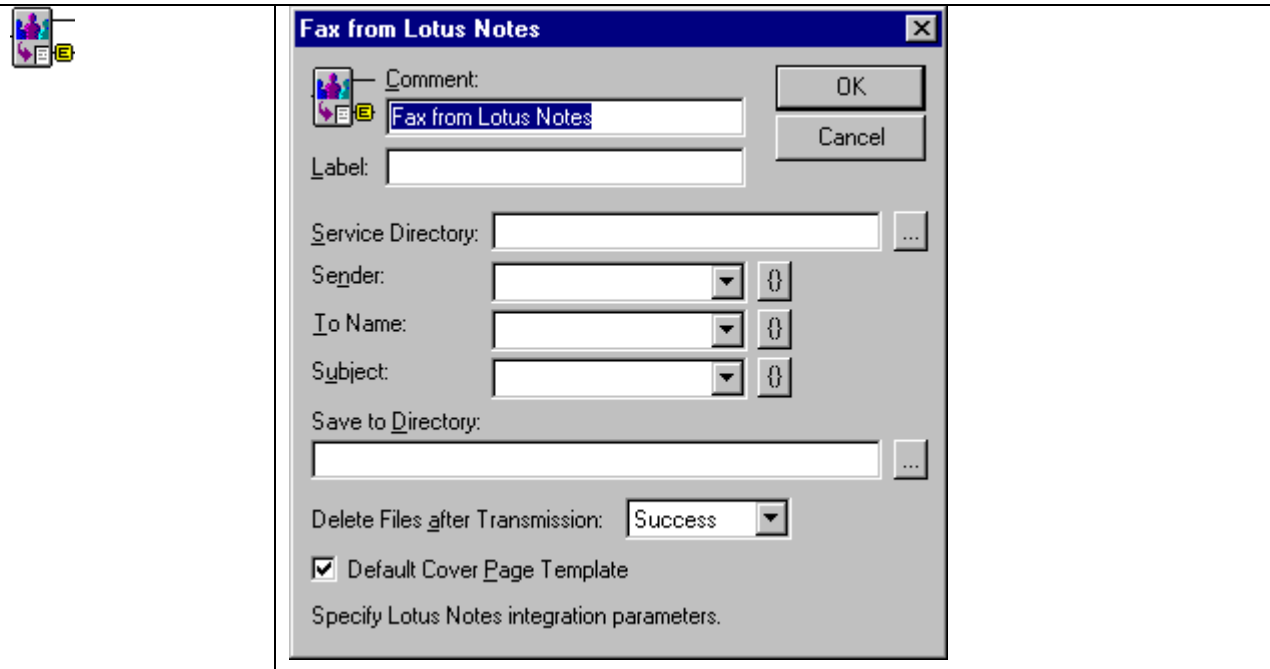


<i>Features</i>	<i>Description</i>
Service Directory	Holds mail messages to be retrieved.
Sender, To Name, & Subject	Specifies who is sending the fax, receiving the fax, and what the fax is about.
Save to Directory	Holds incoming temporary files for processing
Delete Files After Transmission	(Default – Always). Specifies when or whether the files should be deleted after being sent. Options are Always, Never, or Success (deletion upon successful fax transmission).
Default Cover Page Template	(Default – Checked). Determines whether to send the cover page defined in the Master Configuration. See Fax Options.
Sender's Property	Retrieved from sender's address properties and used to verify the sender's properties against the Property Value (for example, to ensure that a user had the right to be able to send outbound faxes). If values don't match, the workflow will exit via the (E)rror link. If the values are a match, the workflow continues on to the next block through the Normal exit.


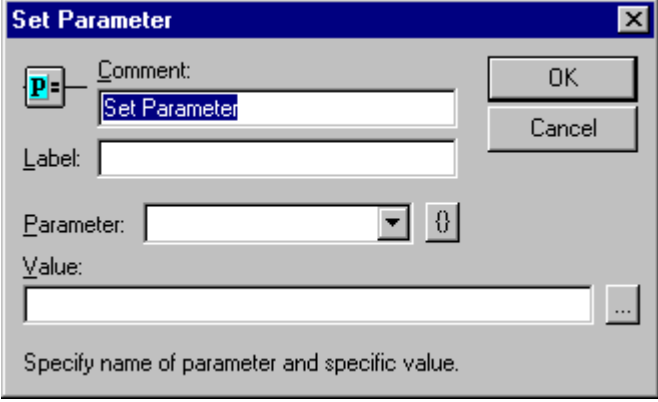
Deliver to Lotus Notes - Delivers a fax to a Lotus Notes client. Exits via Normal link if message processed successfully or via the (E)rror Link if any system error occurred.


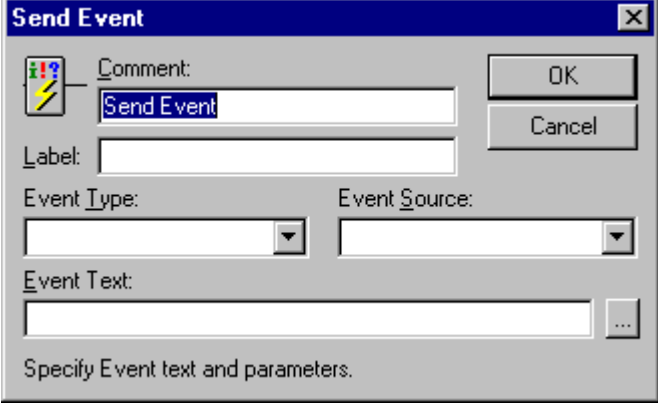
Features	Description
Service Directory	Specifies the directory where the file being delivered is to be dropped. The FL Lotus Notes Gateway picks up the file for delivery.
Fax Number	Specifies the DID (direct inward dial) number of the recipient as captured by the CalledNumber parameter. The LotusNotesFAX address type is in the form of @941-643-8795. However, if the called number is only 4-digits, it will be translated in this box as: {CalledNumber};????>@941-643-????
From Name	Specifies the name displayed in the From Field of the email being sent.
File to Deliver	Specifies the received fax image attached to the recipient
Subject	Specifies the Fax from CSID (remote fax machine's id) usually but can be anything.
Voice Mail Notification	(Default – Unchecked). Used to call the recipient and leave a message notifying them of a new fax. The voice mail information is retrieve from the Stream Center's Lotus Notes gateway and stored in parameters.

Fax from Lotus Notes - Sends a fax from Lotus Notes. A return receipt is automatically generated with the internal email address of the sender in the parameter NotificationAddress. Exits via Normal link if application completed successfully or Via the (Q)ueue link to the Outbound Fax Queue block if the job posted to Fax Queue.

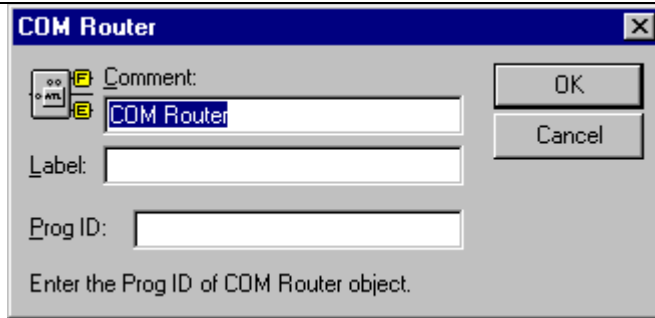


<i>Features</i>	<i>Description</i>
Service Directory	Holds mail messages to be retrieved.
Sender, To Name, & Subject	Specifies who is sending the fax, receiving the fax, and what the fax is about.
Save to Directory	Holds incoming temporary files for processing
Delete Files After Transmission	(Default – Always). Specifies when or whether the files should be deleted after being sent. Options are Always, Never, or Success (deletion upon successful fax transmission).
Default Cover Page Template	(Default – Checked). Determines whether to send the cover page defined in the Master Configuration. See Fax Options.
Sender's Property	Retrieved from sender's address properties and used to verify the sender's properties against the Property Value (for example, to ensure that a user had the right to be able to send outbound faxes). If values don't match, the workflow will exit via the (E)rror link. If the values are a match, the workflow continues on to the next block through the Normal exit.

Set Parameter - Allows user-defined parameters to be specified.	
	
<i>Features</i>	<i>Description</i>
Value	Set to Parameter value.

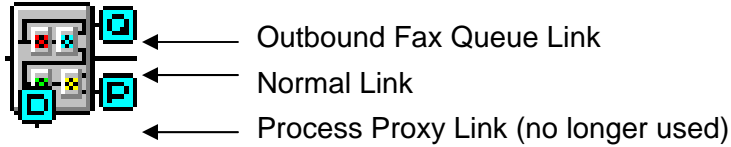
Send Event - Sends messages to the Stream Center Event Monitor.	
	
<i>Features</i>	<i>Description</i>
Event Types	Includes Fatal, Server, Warning, and Debug
Event Source	Includes Instance, Application, Workflow, Program, Database, Resource, and Configuration.
Event Text	Specify the information displayed in the Event Monitor's text section. This can include user and system-defined parameters.

COM Router - Allows you the end-user to create his/her own program and run it within this block. Thus, the user will create The three exits links in their program. After the program is created, the user has to register this project on the Stream Center system by running 'REGSVR32.EXE' <com object name>

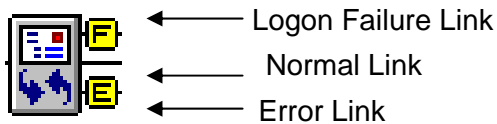


<i>Features</i>	<i>Description</i>
Prog ID	Used in the creation of the user-created COM object.

Exits: Normal, Error and Other Types



Database connection (no longer used)



Steps in Creating a Workflow

1. Plan the workflow: What do you want the workflow to do? A clear statement will simplify the job.
2. Chart the workflow: Create the workflow using a Workflow Generator Tool. Place the items on the flowchart, connect them and add properties.
3. Test the workflow
4. Put the workflow into production.

Planning the Workflow

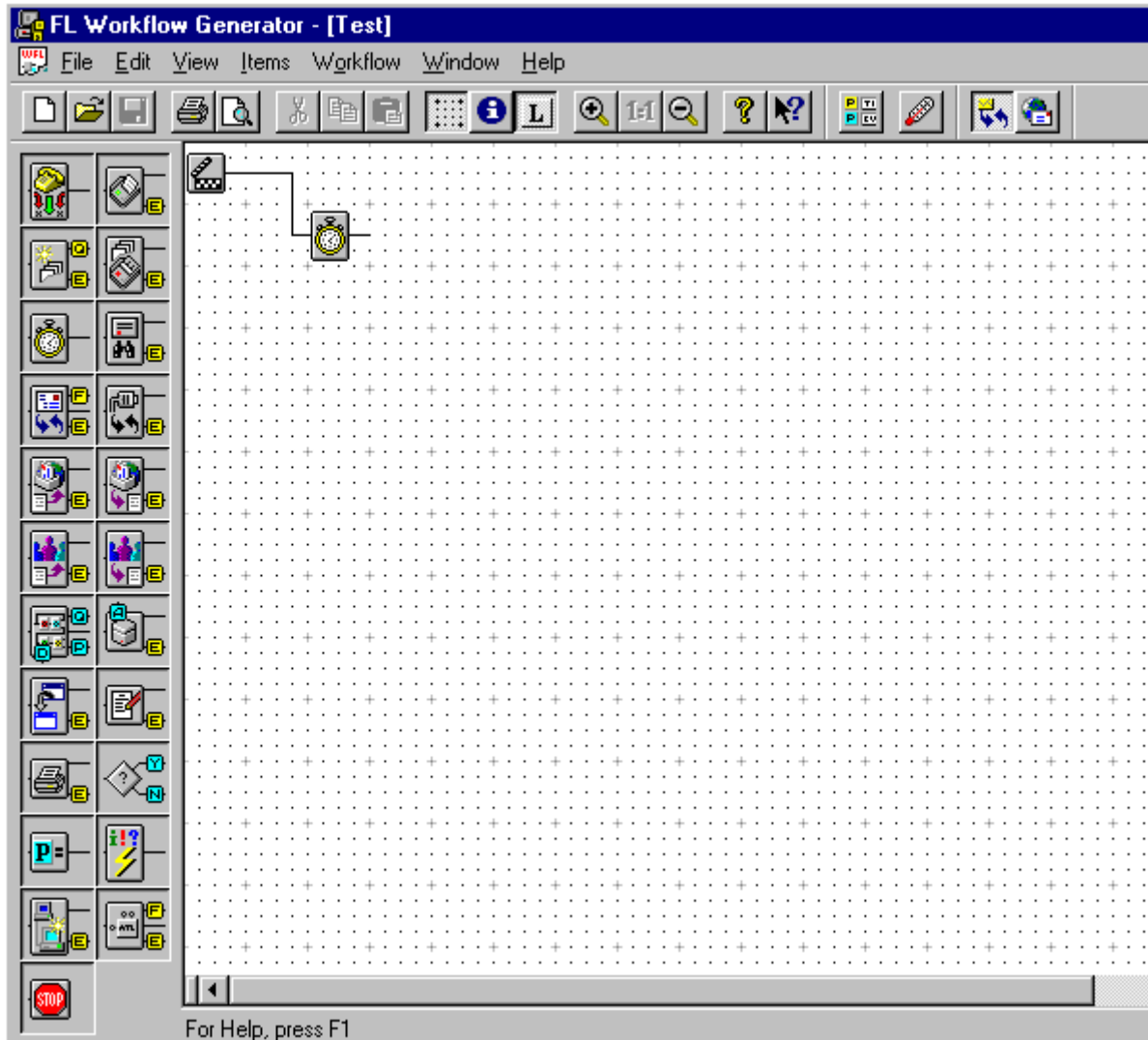
"I want to create a workflow that will automatically fax a report every day at 3 p.m. to two destinations.

Chart the Workflow

Open the Workflow Generator and select **File>New**. Give the new workflow a descriptive name.

Click **OK** to display the workflow Generator main workspace. The **Start** item is already in place. Drag and drop the **Timer** item. It will be used to start the time when the workflow is to be

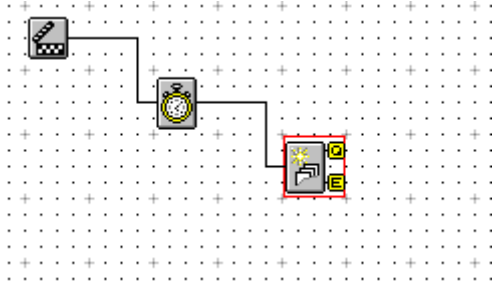
automatically started. See the Sample on the next page.



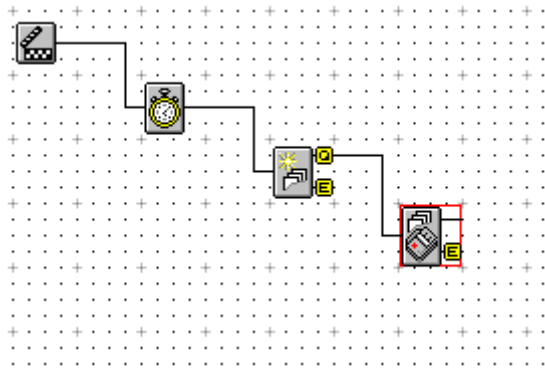
Making Connections

To connect items, click an exit from an item. The cursor changes to crosshairs. Drag the mouse to the next item and click the left button again. A connection will appear between the two items. To cancel the crosshairs, click the right mouse button.

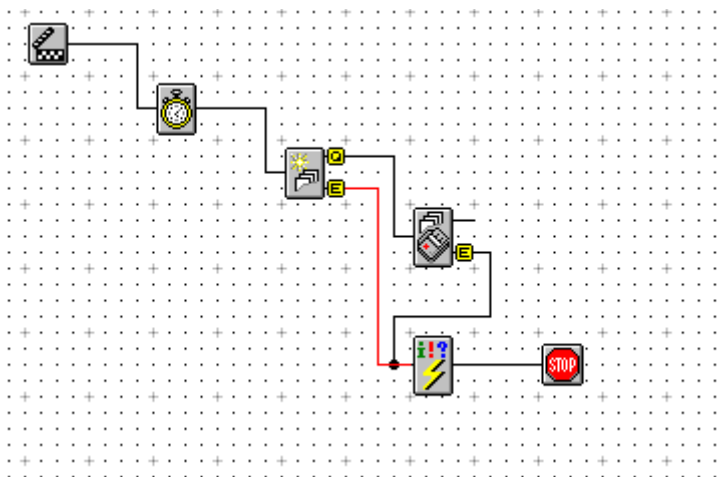
Now drag and drop a **Fax Broadcast** item. It will be used to specify the name of the report file and the destinations to which it will be faxed. Connect the items as you draw the workflow.



Drag and drop the **Fax Queue** item.



Drag and drop the **Send Event** item and the **Stop** item. The **Send Event** item will direct an error message to the Event Monitor to notify you of any problems with the broadcast or with transmission from the fax queue. The **Stop** item ends the workflow.



Now double-click each item to set its properties (or you may set properties as you place each item, if preferred).

Timer Properties:

Timer

Comment: Timer

Label: Time Of Day

Run interval

Monthly Start: Jul 5, 2001 Time: 3:00 pm
 Weekly End:
 Daily Day of the Month:
 Hourly Day of the Week:
 User Defined Every hrs min sec

Specify the time to start workflow.

OK
Cancel

Fax Broadcast Properties:

This broadcast will be automatic. Click the Parameters button.

Fax Broadcast

Comment: Fax Broadcast

Label: Report Broadcast

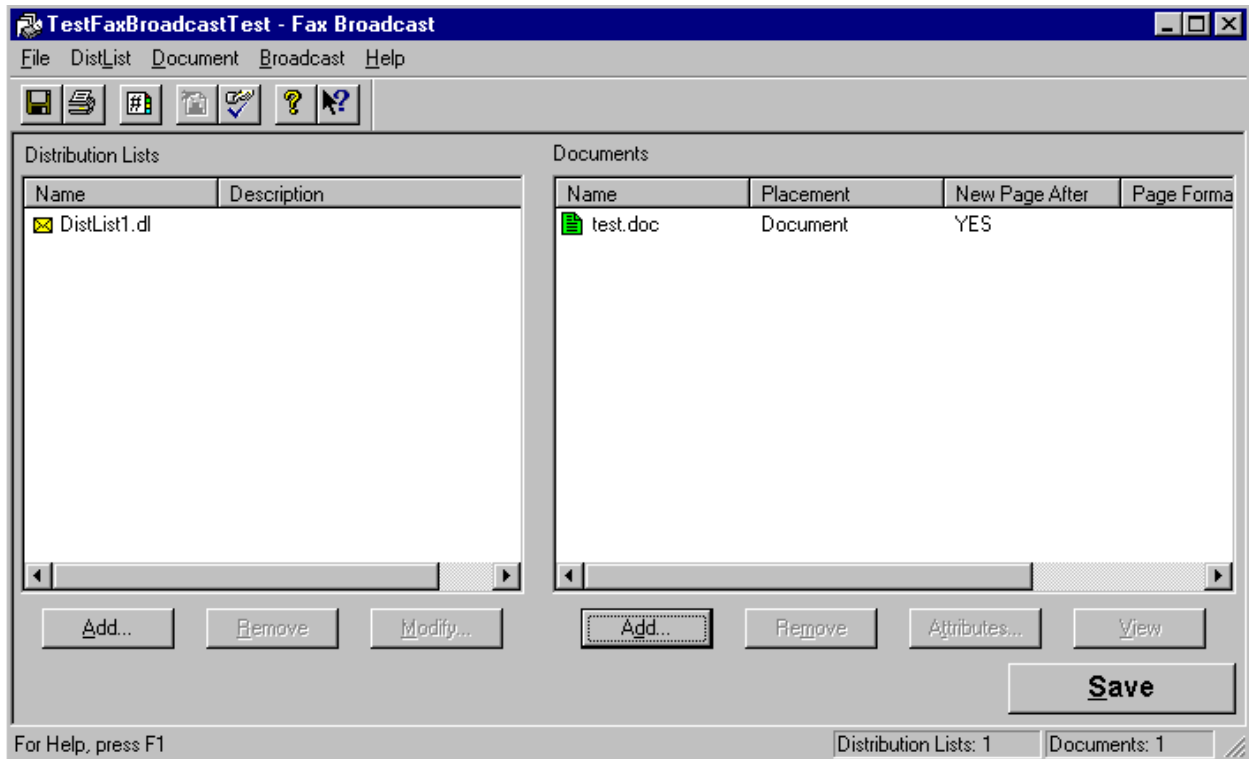
Invocation Mode

Manual
 Automatic Parameters...

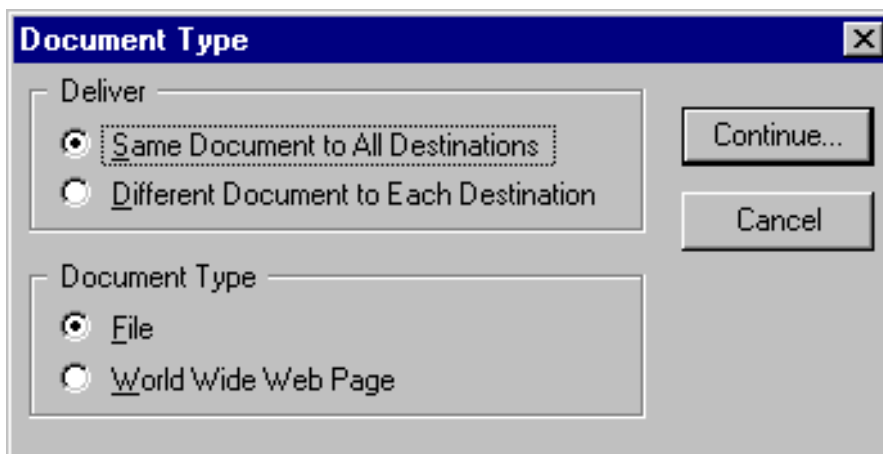
Select invocation mode and specify parameters in case of automatic fax broadcast.

OK
Cancel

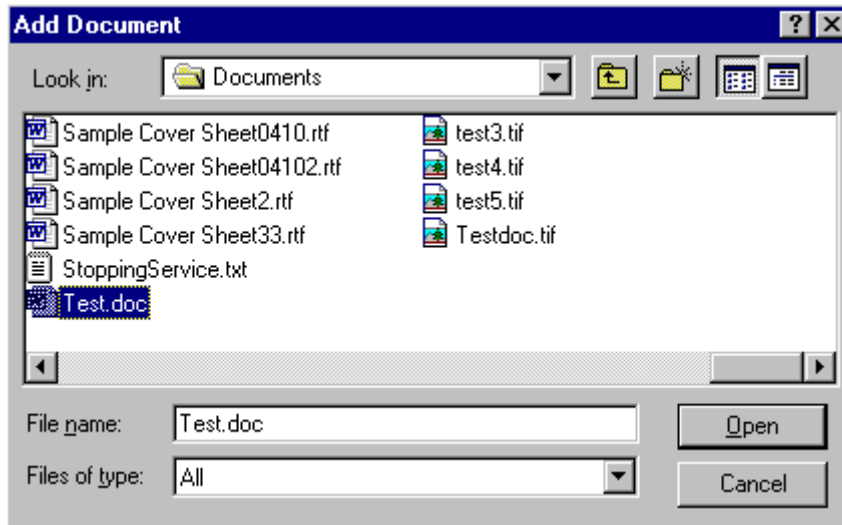
The broadcast initiation dialog appears. Click the **Add** button on the Distribution List side of the window. Highlight it and click **Open**.



Click **Add** on the Document side of the dialog and add the report to be faxed. Specify **Deliver Same Document to All Destinations** and specify **File** for Document Type. Click **Continue...**

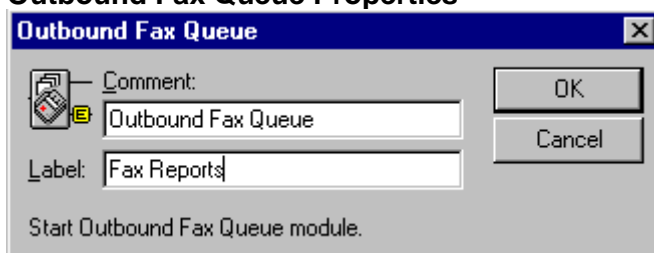


Select the file that contains the report.

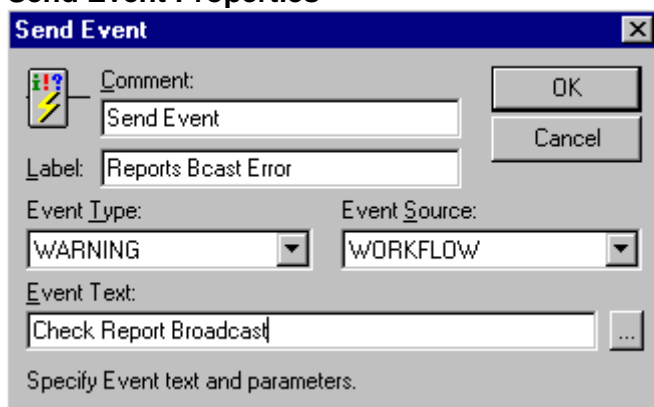


Once you have selected the file, click **Open** to return to the Fax Broadcast Initiation dialog. There, click **Save** and close the Fax Broadcast Initiation dialog.

Outbound Fax Queue Properties

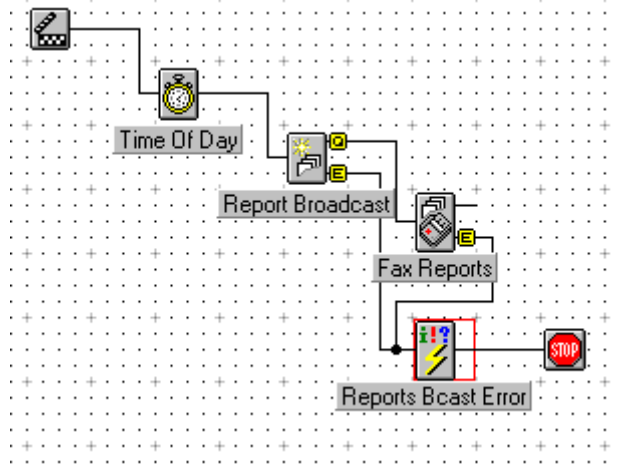


Send Event Properties




Setting up Events is covered alter in this course.

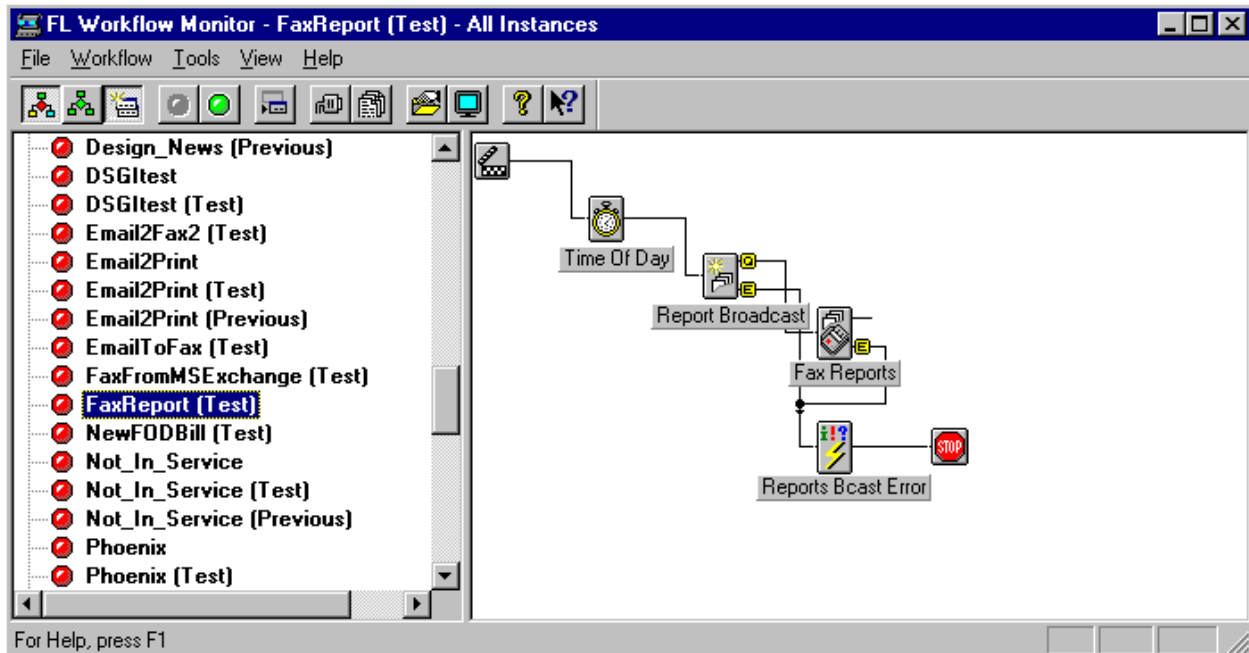
The completed workflow, with labels, looks like this:



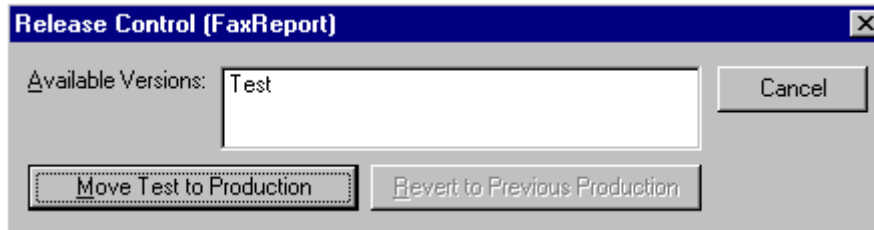
Checking and Testing

Select **Workflow>Check** or click  to allow Stream Center to verify that all your item dialog properties are specified, and all connections between items have been properly made. **Unless the workflow checks OK, you will not be able to test it, or enable it from the Workflow Monitor.**

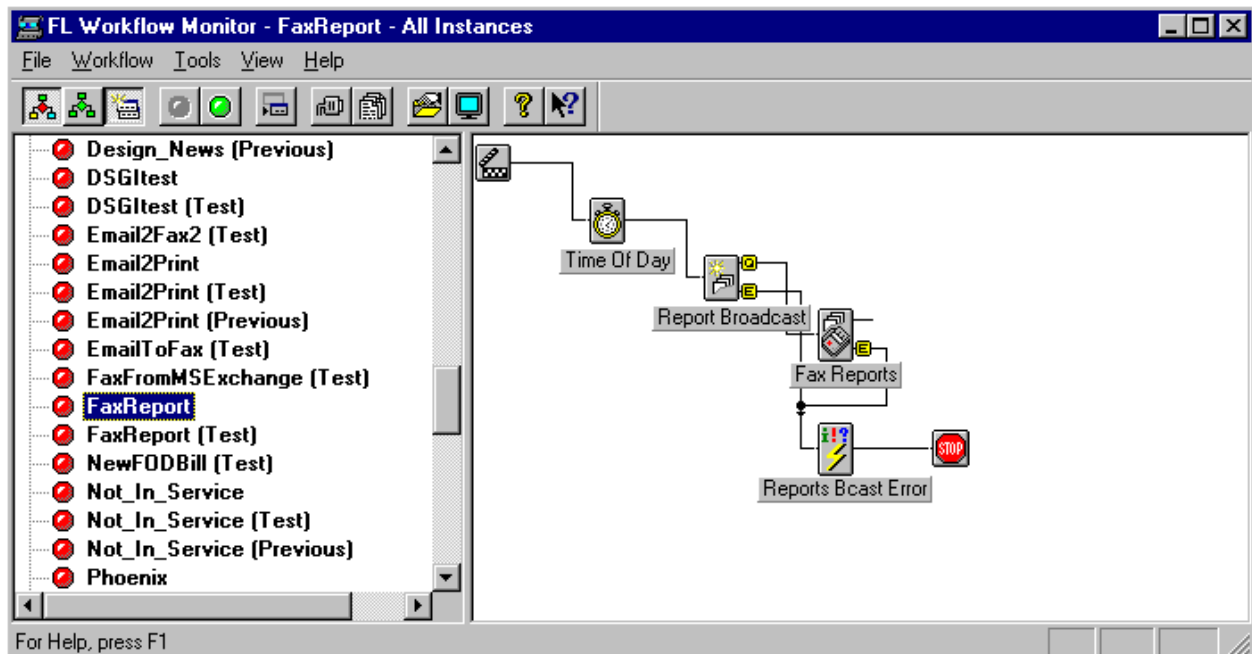
Close the Workflow Generator, and open the Workflow Monitor. The new workflow will appear with Test following its name.




To place the workflow into production, select **Workflow>Release Control** or click 



Click **Move Test to Production**. The workflow is now available for use.



The final step is to enable the workflow. To do this, click the Enable toolbar button  or select **Workflow>Enable**.

At 3 p.m. this workflow will automatically broadcast the report file to your distribution list.

Application Generation 3

The application Generator is a graphical tool for creating and maintaining interactive voice response (IVR) and Voice Response Unit (VRU) applications. You use a library of blocks – each of which represents a basic action such as playing a recorded prompt, getting DTMF tones, or sending a fax – to build voice/fax information retrieval and delivery applications. The block library is organized into several classes, which include:

- **Caller Interface** – Blocks related to interaction with a remote caller.
- **Play and Enter** – Blocks that control prompt playing and receive DTMF inputs.
- **Internal Control** – Blocks used for internal control of the application.
- **Fax Queue** – Blocks used for fax queue control and management
- **Disk and File Operations** - Blocks that handle file management.
- **Calculation and Conversion** – Blocks that perform arithmetic operations, handle data manipulation and set variables.
- **Database Operations** – Blocks that establish database sessions and extract information from and store information in, databases.
- **Fax Mail** – Blocks that access the user's mailbox and get fax and e-mail message for remote retrieval by fax.

When you create an application, you will:

1. Create and open the workflow that will contain the application.
2. Place and connect an application block at the proper point within the workflow. Create the application (see **How to use the Application Generator**).
3. Select blocks from the various classes (each class has its own palette of blocks from which to choose).
4. Drag them to the workspace, and connect them to create a visual representation of the application. As you create your application you can record appropriate voice prompts and specify underlying operating parameters.
5. Test the application, without leaving the Application Generator window.

Before You Create an Application

Follow the general steps below to plan and create a new application. These steps are described in detail in the following sections.

1. **Plan the Application.** Determine what information (document files) you want to offer callers, and how to present it. Decide the general flow of the application, the options that will be available to callers and the prompts that will lead callers in making their choices.
2. **Chart the Application.** Plot the application in the workspace area. (**Using the Application Generator** section describes how to create/modify an application.) Specify the parameters and the properties of the control blocks. Record the prompts and messages.
3. **Check and Test the Application.** Use the Check and Test commands to observe the application in action. Correct any flagged problems.
4. **Include the Application in Your Workflows.** Make the application available to callers, for example, within a fax on demand workflow.

Planning the Application

Before you create your application flowchart, first plan what you want it to accomplish and how it will work. Here are some guidelines to help you plan your application:

Try to envision different situations that might arise as caller interacts with the application. Also keep in mind that the application may need to perform other tasks that may or may not be directly related to the caller's choices. For example:

- Will type-ahead be supported (so the caller does not need to wait until a prompt is finished before entering a DTMF choice)?
- Will interrupt keys be supported (so the caller can press a designated key at any time while a prompt or message is being played to request transfer to an operator or for some other purpose)?
- In the case of repeated errors, will the call be terminated? Will the caller get the opportunity to speak to an operator?
- Will the application handle both one-call and two-call faxes?
- How many faxes (or pages) will the caller be allowed to select?
- Is it possible that none of the options presented in the menu may meet the caller's needs? How will this be handled?
- Will the application need to check the caller's authorization using a PIN or password database file?

Compose Your Prompts and Messages

Use simple and natural words that are familiar to all callers. This may require that you research who your callers are likely to be (e.g., technical people, older persons, non-native speakers, etc.)

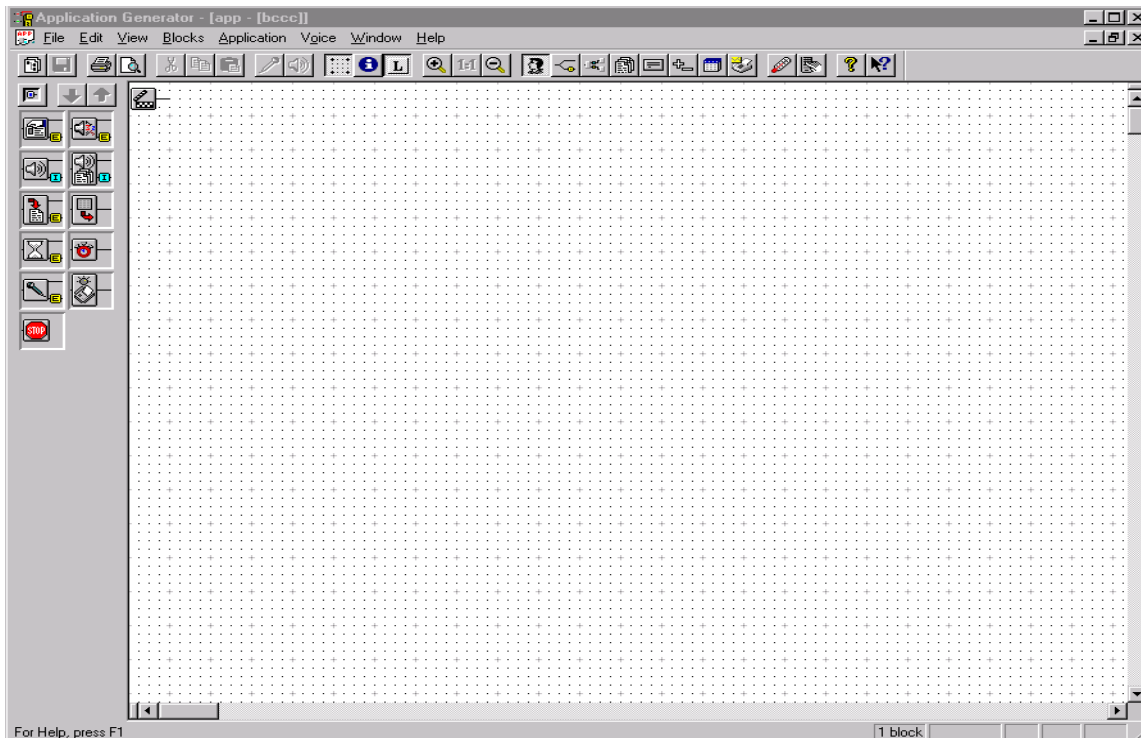
Hints:

1. The first thing a caller should hear is an introduction or greeting. This lets the caller know they have reached the correct number.
2. Provide easy exits, for example, at the start of the call tell the callers how to reach a live operator. This makes the caller more comfortable dealing with an automated system.
3. Always make the most commonly requested information the easiest to get by placing the prompt at the top of the menu.
4. Describe the information first, then specify the number to dial to make the selection. For example, say, *“For interest rates, press 2,”* not *“Press 2 for interest rates.”*
5. Do not say the letter O if you mean the number 0. Instead say *zero*.
6. Keep menus short. Offer no more than four or five items in each selection so callers can remember all of them. Break the selection process into submenus if necessary. If your menu must offer more than five item, give the caller the opportunity to have it repeated. For example, *“If you would like to listen to available options again, press the star key.”*
7. Be consistent in your language and in the way you request actions from the caller. Do not say *“Press 1...”* and then later in the application, *“Push the 2 key...”* Consistency prevents confusion.
8. Provide feedback. Once a caller responds, have the system play back the choice of confirmations.
9. Offer shortcuts. Experienced callers should be able to use the type-ahead feature if they wish. You may even provide a choice of two applications: one for knowledgeable callers and one for first-time callers.
10. Provide good error messages and offer guidance when the caller makes an error.

How to Use the Application Generator

The Workspace

The Application Generator main window, or workspace, is where you create the flowchart for your applications. To create an application, drag and place the *application* block at the proper point in the workflow. Double-click the block, give the application a label and name and select **Create**. The application generator main workspace will appear.





If you can use an existing application (in whole or part) as a template for a new application, select **File>Copy From** to display a dialog from which you may choose the application you want to use. A copy of the application will appear in the Application Generator workspace, for you to edit.

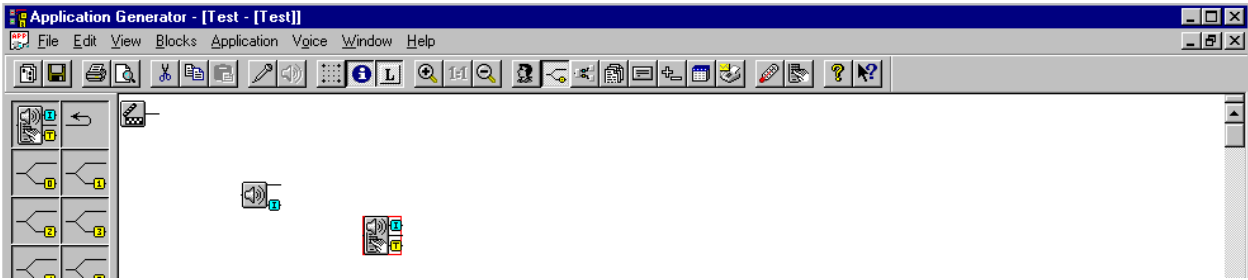
To chart an application:

1. Drag blocks from palettes and position them in the workspace. Select whatever blocks are appropriate to represent the function and operation of your application.
2. Draw connections between blocks to represent the flow of the application.
As you place the blocks:
3. Specify any properties (parameters or options) for each block.
4. Record your application's prompts.

Let's chart an application to greet the caller and prompt him/her to select one of three documents to be faxes:

Select the **Caller Interface** palette by clicking on its toolbar button . Drag the **Play** block into the workspace.

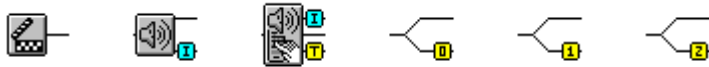
Click on the **Play and Enter** palette by clicking on its toolbar button . Drag the **Play and Enter** block into the workspace.



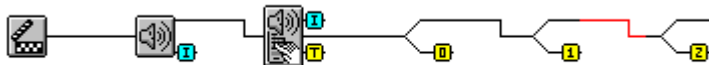
The **Play** block represents the greeting. The **Play and Enter** block prompts the user to select a document, and collects the DTMF digits of the selection. (You can record the greeting and prompt later as a separate step.)



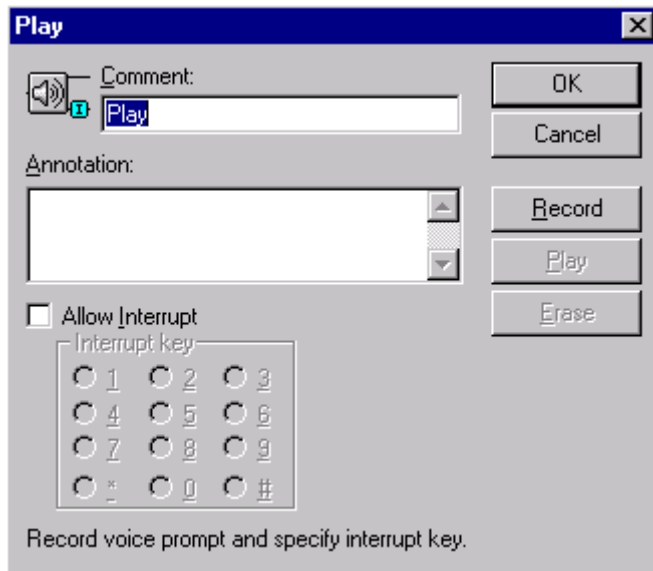
Next, drag the three **Value** blocks that represent each of the possible choices the caller can make in the response to the **Play and Enter** prompt.



You may draw the connections between the blocks as you place them, or as a separate step.



Now, provide the properties. Double-click the block to get its properties dialog.



For the **Play** block, supply the Comment label, the annotation (the text of the prompt) and the interrupt options. For the **Play and Enter** block, supply the label, the annotation, the number of DTMF digits expected as the input, and the interrupt options. Recording the prompts can be done later as a separate step.

Although this is just a segment of a possible application, it shows the basic steps involved in creating the flowchart.

Control Block Exits

All control blocks, except the **Start** block and the **End Call (Stop)** block, have one entry stub and from one to three exit stubs: a standard exit, and an optional exit or requested exit or both.

The standard exit is always present, except with the **End Call** block. If a block has more than one exit, all exits except the standard exit have markers with a letter or digit on them. Yellow markers are exits that must connect to the input of another block. Light blue markers are optional exits that do not need to be connected to another block. **You cannot test an application until all necessary control block connections are made.**

Recording Voice Prompts

Follow these steps to record voice messages and prompts:

1. Double-click the **Play** or **Play and Enter** block for which you want to record a prompt or message. Its properties dialog box appears.
2. Click the **Record** button. The Sound Recorder appears:



(Or click the block once to highlight it and then click the  button.)

If you wish, you may read the message or prompt while you record it. You may type the message you want to record into the **Annotation** field of the blocks property dialog. Click the **Record** button and read the message aloud. Click the **Stop** button when you are done recording.

3. When you are finished recording, select **File>Exit**. You are prompted whether you want to save your changes.


Recording Hints

1. Select a speaker with a clear and pleasing voice so your application is easy to follow and makes a good impression on callers.
2. Do the recording in a place with no background noise.
3. Consider using a professional narrator or recording studio

Check and Test the Application

Once you have created the application flowchart and recorded the messages and prompts, check the application for syntactical correctness and completeness. Then test to see and hear now the application can handle an incoming call.

Checking the Application

From the menu, select **Application>Check**, or click . Stream Center will list any errors it finds in the Check Errors List. Make corrections to your application to fix the problems identified and re-run **Check**.

Do not try to test the application until the check detects no errors in the syntax or logic.

Testing the Application

From the menu, select **Application>Test**, or click .

A red box encloses each control block as the test routine executes the code for that block. This helps you follow the flow.

When you begin the test, a handset icon appears on the screen to allow you to make DTMF selections at any point where a **Play and Enter** block is encountered, just as if you were the caller. Your selections determine the flow of the application. If you do not make a valid

selection in the allotted time, a Timeout path is followed. If you provide the Interrupt key, you may press the designated key to test the Interrupt option. You may halt the testing at any time by selecting the **Hang Up** button.

During testing, type-ahead is not supported. The test routine requires you to go through each step completely.

Editing the Application

After the application is built, tested and in production, circumstances may require making changes. Follow these steps to edit your application:

- From the Application Generator, select **File>Copy From**. Highlight the workflow containing the application you want to modify. Double-click the workflow name to see a list under it of the applications it contains. Highlight the application you want to edit, then click **Copy**.

Or:

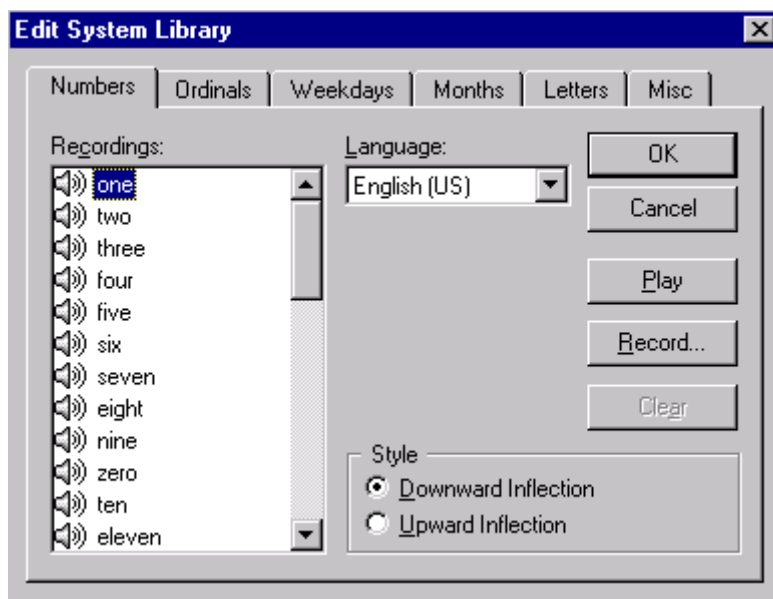
- From the Workflow Generator, open the workflow that contains the application to be edited. Double-click the block representing that application.
- Click the **Modify** button to display the application in the Application Generator, ready to edit. Edit the flowchart as necessary. When done, check and test the application to make sure your changes operate properly. Any time you make changes to a workflow or application, you should run a check.

Create and Edit Voice Libraries 4

The System Voice Library

The system and application voice libraries are collections of voice files that you may call from the **Speak** block when you want voice prompts to provide numeric data, ordinal numbers, day and date, and other types of standard information. The **Speak** block accesses voice files from the system library, or a customized voice file.

To create or edit the voice file libraries, select **Voice>Create** (or **Edit**) **System Library** (or **Application Library**) from the menu. The following screen appears:





The tabs correspond to types of phrases commonly needed to construct voice prompts:

- Numbers
- Ordinals
- Weekdays
- Months
- Letters
- Miscellaneous (e.g., a.m., p.m., cents, dollars, etc.)

Select the tab that corresponds to the type of phrase you wish to record or re-record.

Recording a Voice Prompt

Select the tab for the type of phrases you wish to record or re-record. A list of available prompts will appear. A speaker icon  appears in front of the item if a recording already exists.

A microphone icon appears in front of the item if no recording exists. 

Follow these steps to record a new prompt, or re-record an existing prompt:

1. Highlight the prompt you wish to record or re-record.
2. If style options apply to the type of prompt you have select, choose the appropriate style. For example, numbers can be recording with an upward inflection (as a question) or a downward inflection (as a statement).
3. Click on the **Record** button.
4. Record the new prompt. When you are done, select **File>Exit** to return to Edit Library.
5. Click **Play** to hear the prompt you just recorded.

Click **Clear** if you wish to go back to the system library recording (without accepting the recording you just made). Click **OK** if you wish to keep the recording you just made. Or, to leave Edit Library without making any changes, click **Cancel**.


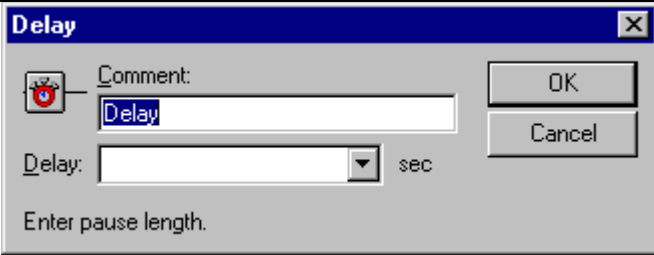
Control Blocks

5


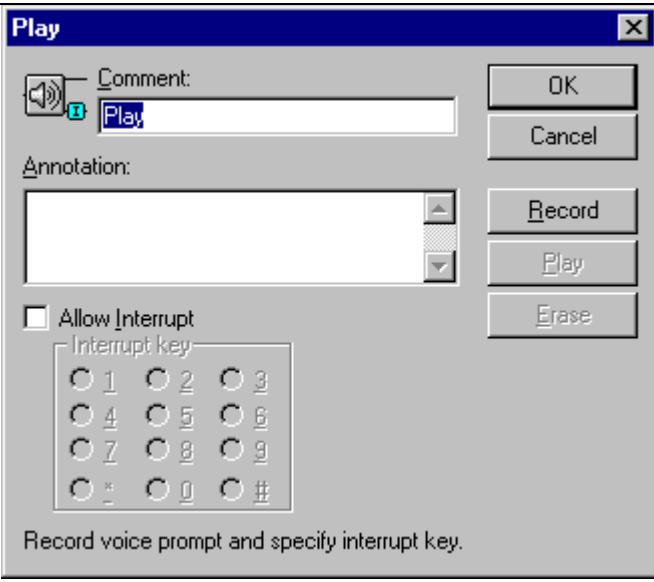
This section lists the palettes and their associated control blocks that you use to create applications.


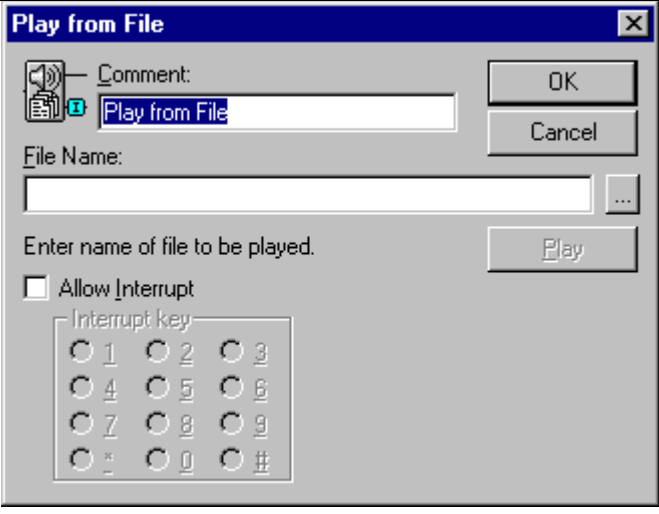
Caller Interface Palette

Delay - Inserts a pause from 1 to 60 seconds in the application.


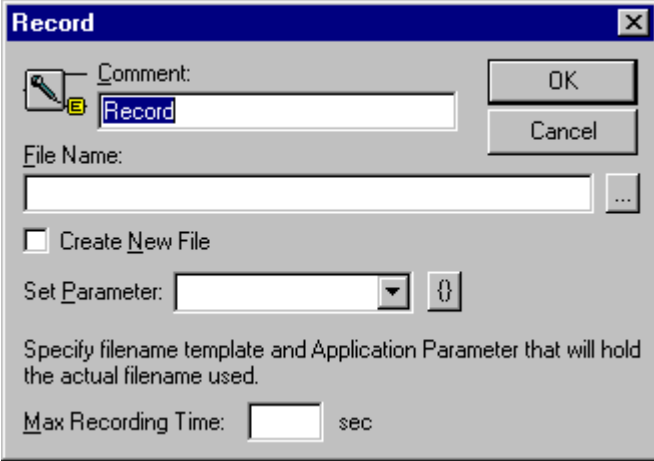
	
---	--

Play - Plays a pre-recorded message.


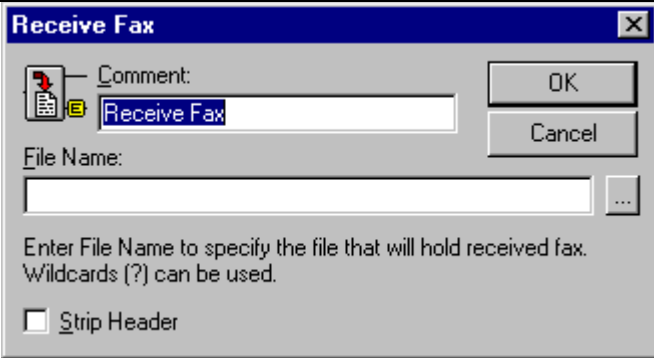
	
Features	Description
Annotation	Notes the recording to be played.
Allow Interrupt	(Default – checked) Accepts an interrupt from the caller and exists via the (I)nterrupt link off the block.

Play from File - Plays a .WAV file.	
	
Features	Description
File Name	Includes the full path to the file to be played. The file name can be specified with a parameter.
Allow Interrupt	(Default – checked) Accepts an interrupt from the caller and exists via the (I)nterrupt link off the block.

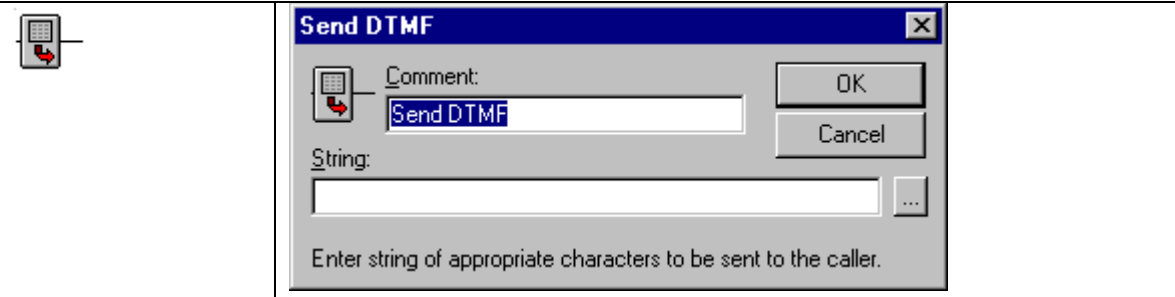
Record - Records incoming messages as .wav files after signaling the user with a beep to start recording. Exits via the Normal link if interrupted [user depresses pound key (#)] or via the (E)rror link if program returned any error code.

	
Features	Description
File Name	Includes the full path for the .wav file to be recorded. If the file name is not specified a file name will be generated by the system but only if the Create New File check box is checked. By default, Create New File is unchecked.
Set Parameter	Stores the newly created .wav file name and path.
Max Recording Time	Allows limiting the time for each recorded .wav file.

Receive Fax - Receives incoming fax and stores name of fax in WorkBuffer parameter.

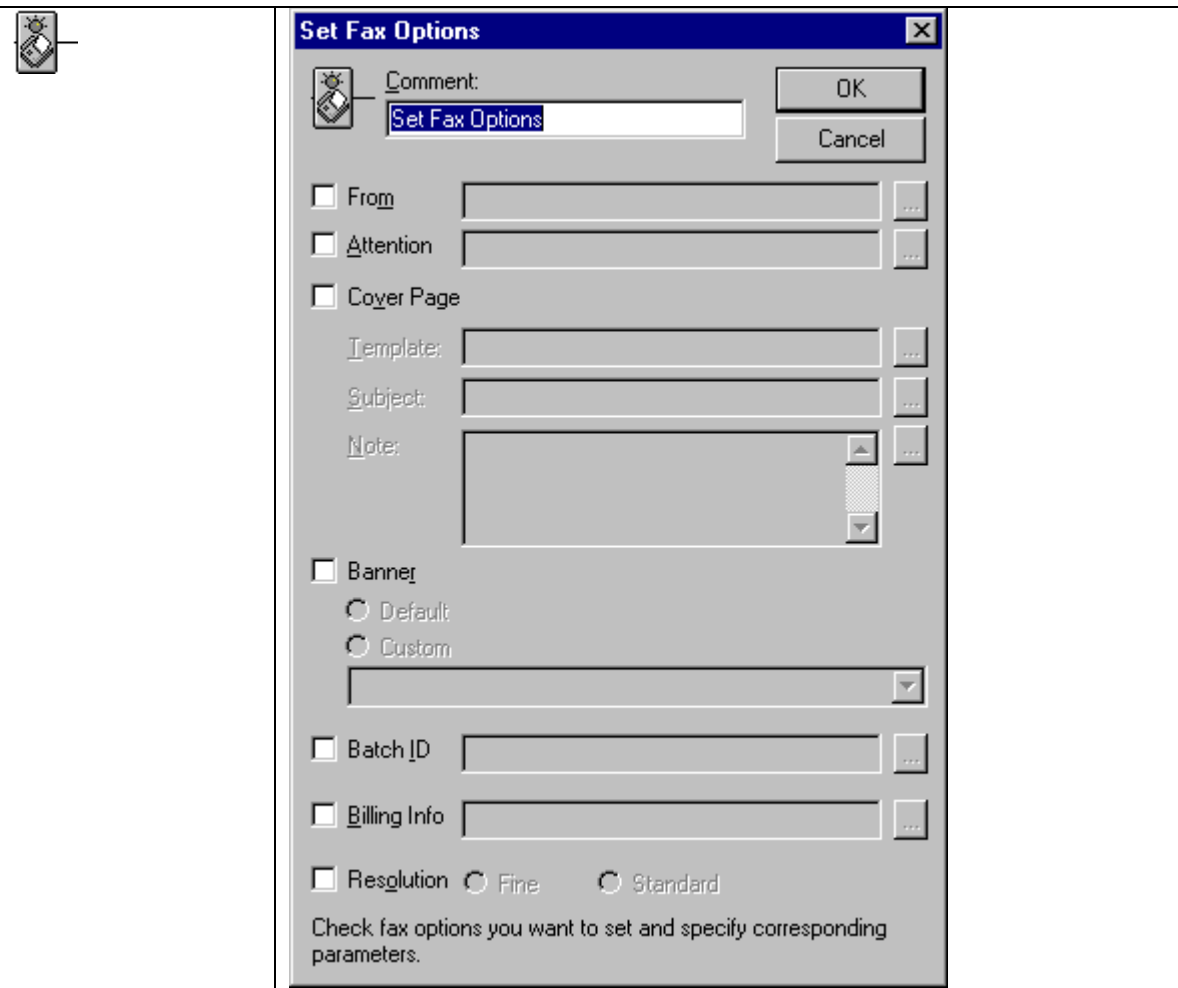
	
Features	Description
File Name	Includes the full path for the .TIF file to be saved. Can include wild cards to generate unique file names.
Strip Header	(Default – Checked) Delete the header that is a part of an incoming fax transmission (usually displays from name to name and number of pages of transmission).

Send DTMF - Sends DTMF (dual-tone modulated frequency) to the caller so calls can be transferred from one extension to another. Ampersand (&) is used for a Flash for the phone switch. Comma (,) is a one second pause. Will send any value the phone switch will allow. Values include 0-9, *, #. For example, Siemens Rolm switch to transfer a call the pattern would be &, *7<extension number>.



Features	Description
File Name	Includes the full path for the .TIF file to be saved. Can include wild cards to generate unique file names.

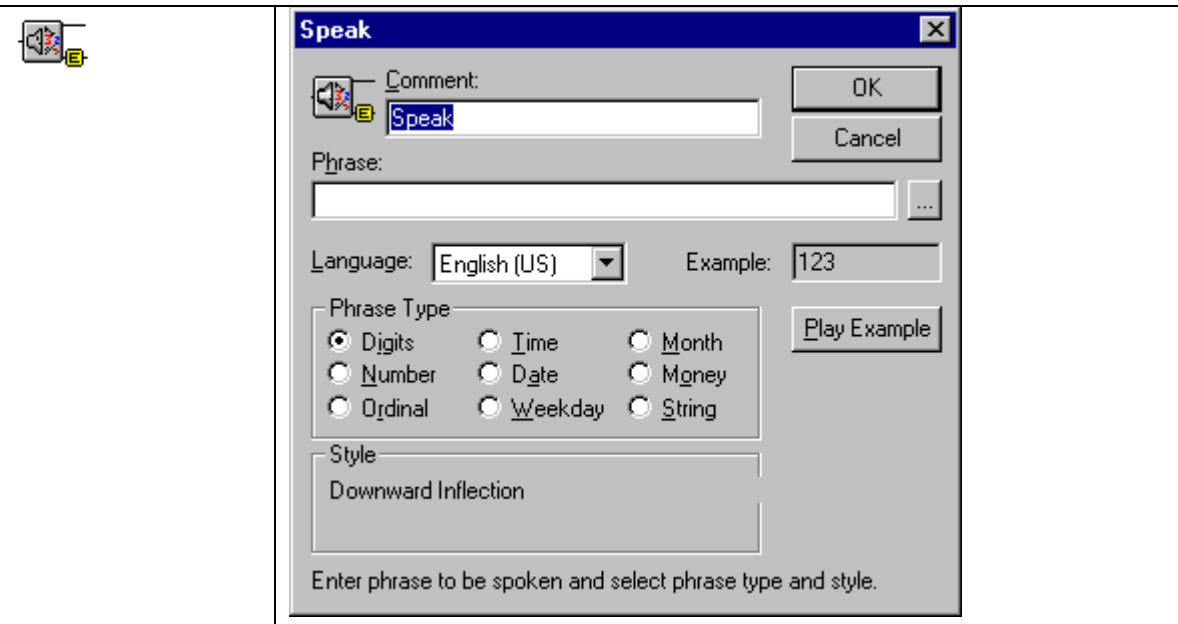
Set Fax Options - Allows you to set faxing options such as FROM name, TO name, cover page, and fax resolution.



Features	Description
From	Displayed in the banner at the top of every fax page. If the cover page option is selected, it will replace the {From} cover page tag. Maximum 250 characters but only the first 35 characters will be displayed in the banner.
Attention	Names the person the fax is being sent to. If the banner option is selected, it will be displayed in the banner at the top of the fax page. If the Cover page option is selected, it will replace the {Attention} cover page tag. Maximum of 250 characters but only the first 31 characters will be displayed in the banner.
Cover Page Template	Names the file (.rtf or .html) that will be used as the cover page. See Error! Reference source not found. for creating cover page templates.
Cover Page Subject	Defines the message subject and replaces the {Subject} cover page tag if the cover page option is selected.

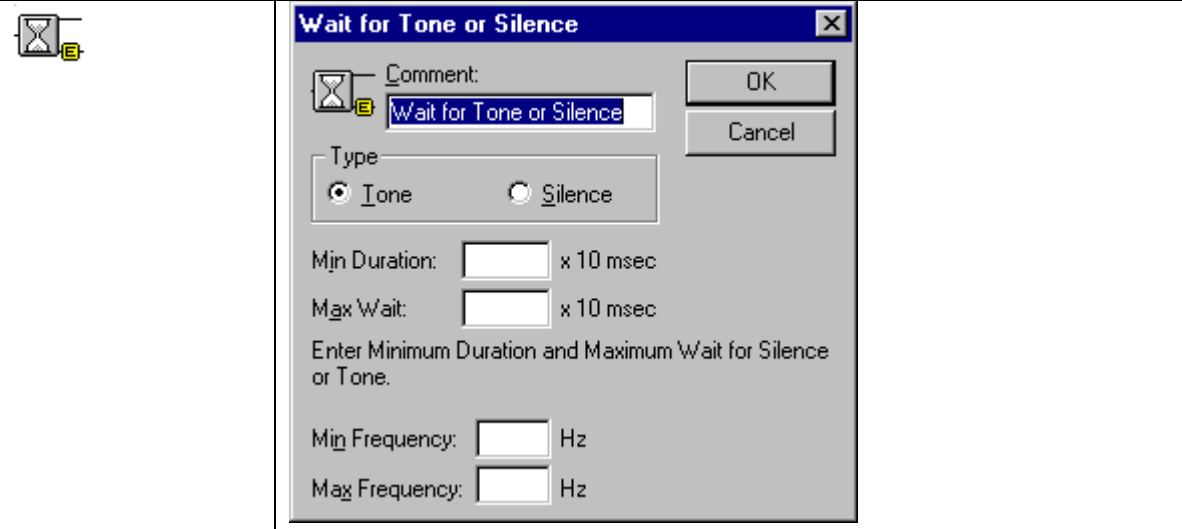
Cover Page Note	Defines either a parameter, message, or text file name (including path after it is verified that the file exists) that will replace the {Note} or {Notes} cover page tag.	
Banner	Displays the heading at the top of each fax page.	
	Option	Description
	Default	Uses the information displayed in the Master Configuration Module under the Fax tab.
	Custom	Allows the selection of two different banner types from the combo box.
BatchID	Posts to the Fax Queue database in the SystemJobList table/BatchID field. This field can be up to 24 alpha/numeric characters.	
Billing Info	Posts to the Fax Queue database in the SystemJobList table/BillingInfo field. This field can be up to 49 alpha/numeric characters.	
Resolution	Sets the resolution of the outbound fax.	
	Options	Description
	Fine	(Default) 100 x 200
	Standard	100 x 100

Speak - Allows system to play back system recordings as Phrase Type.



Features	Description	
Phrase	Specify the phrase or identify a workflow, application, or system parameter.	
Style	Based upon which Phrase Type is selected.	
Digits and Ordinal	Spoken as a downward inflection.	
Number and String	Spoken as an upward inflection or downward inflection	
Time	Phrase in twelve or twenty-four hour format	
Date	Phrased as month, day, and year with no style associated.	
Weekday and Month	Spoken as a neutral inflection	
Money	Phrased as dollars and cents or just dollars.	
	Features	Description
	Dollars and Cents	Inserts a decimal point even if one is not used For example, 123 will be played as one dollar and twenty-three cents (\$1.23), not one hundred twenty-three dollars (\$123).
Dollars	Plays number specified as dollars only. For example, 123 will be read as one hundred twenty-three dollars (\$123).	

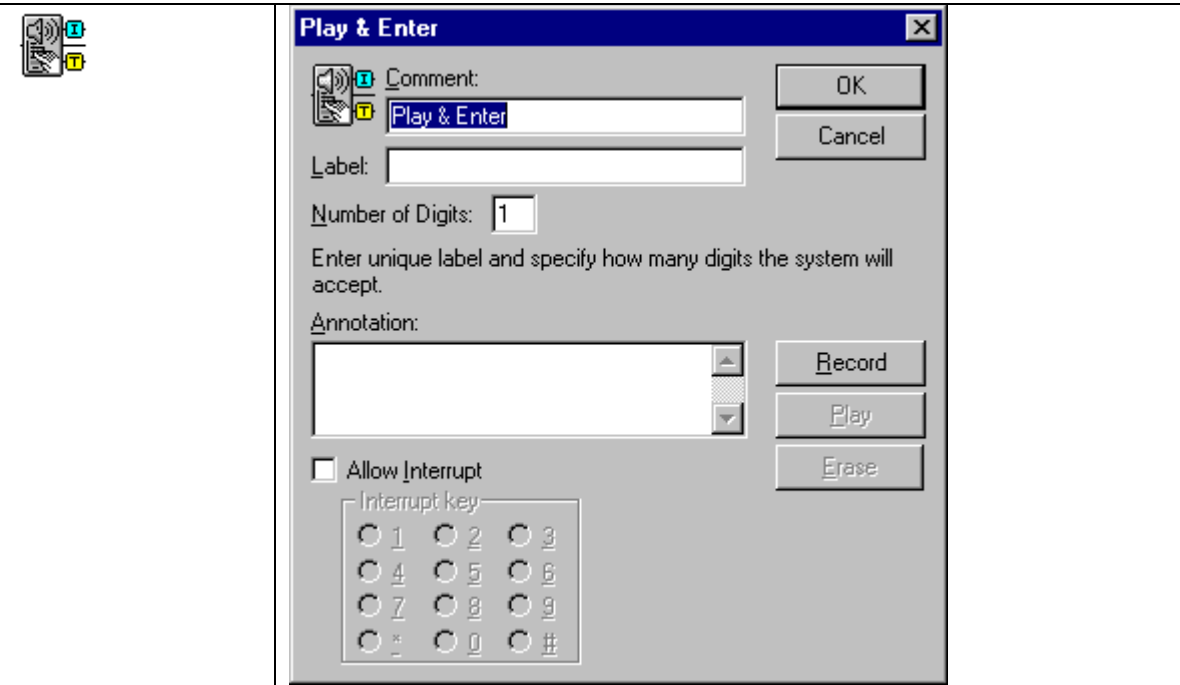
Wait for Tone or Silence – (Currently, only functional for the dialogic voice/fax boards.) Determines if incoming call is a fax machine by listening for the CNG tones that a fax machine transmits when sending a fax. Links exited depend upon the Type selected and whether the correct response has been received. For example, if we are listening for a tone between 1000 Hz and 1200 Hz with a duration of between .01 and .05 seconds and we do not hear a tone for this frequency, we will exit the (E)rror link.



Features	Description
Type	Specify either Tone or Silence. If Tone is selected, the Min Duration and Max Wait will be specified in 1/10 of a second. Values are from 1-127.
Min Frequency and Max Frequency	Specify values between 301 and 2100Hz.


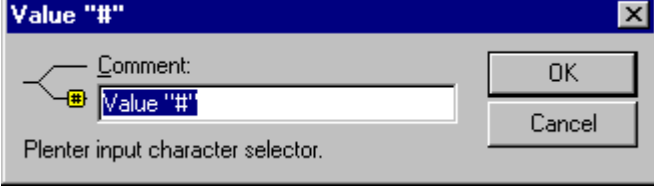
Play and Enter Palette

Play & Enter - Plays a recorded message and allows the caller to enter DTMF digits from a touch-tone phone. Exits the (T)imeout link if the amount of time allotted by the system to receive its first DTMF tone or the amount of time allotted between DTMF tones is exceeded. (Default values - Eight seconds for the first digit and two seconds between digits. For more information, see the Set Control Options block.)


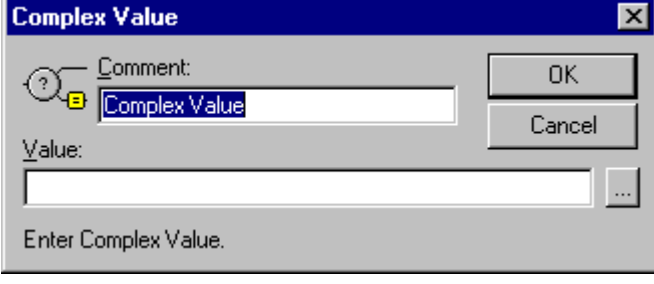


Features	Description
Number of Digits	Specifies the number of digits (0-9,*,#) that a caller can enter. Can specify between 1 and 99 digits.
Annotation	Specifies a note of the recording that is to be played.
Allow Interrupt	(Default – unchecked) Accepts an interrupt from a caller when the caller presses the predefined interrupt key defined using the radio button. If an interrupt is used, the recording exits via the (I)nterrupt link off this block.
Record	Brings up the Windows NT sound recorder used to make the recording.
Play	Plays the message after it has been recorded and saved.
Erase	Deletes the saved message.


Value “#” - Directs the application when the **Play and Enter** block uses single digits. These blocks work like if/then statements for individual digits. That is, if the DTMF value entered is equal to the block value (for example, 2=2) then we exit via the branch displaying that value. Otherwise, we exit the other branch.

	
---	--

Complex Value - Directs the application when the **Play and Enter** block uses multiple digits. Works similar to **Value #** block above.


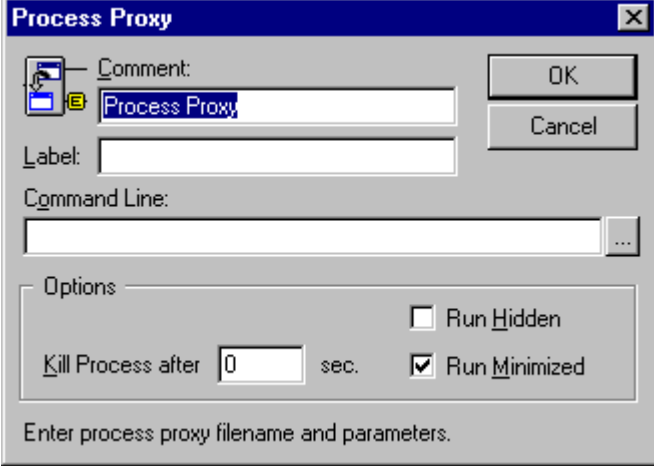
	
---	---

Last Enter - Returns control to the most recent **Play and Enter** block.

	<p>Used with the Is Error block from the Internal Control Palette to return the caller to the last Play and Enter block.</p>
---	--


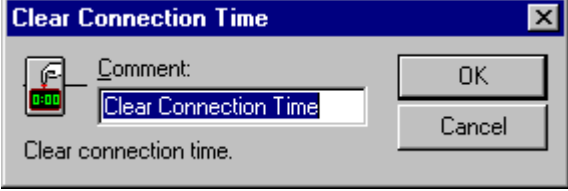
Internal Control Palette 


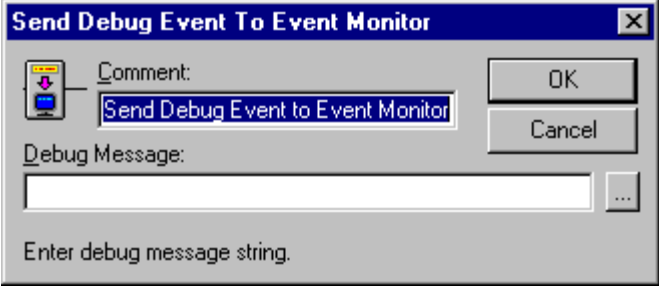
Process Proxy - Invokes an external program. Exits via Normal link if program ran without error or via (E)rror link if program returned error code.


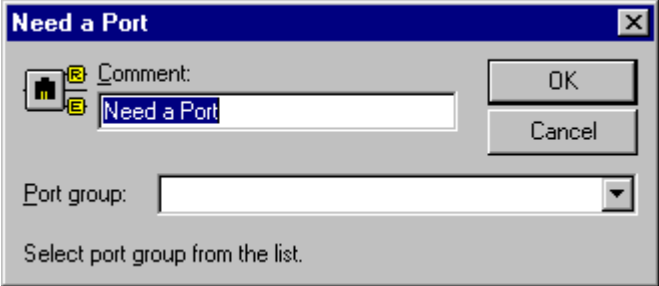
	
---	--

Features	Description
Run Hidden	(Default – Unchecked) Will not show any command line program running when invoked, when checked.
Run Minimized	(Default – Checked) Will run program in a minimized window if checked.
Kill Process after (blank) sec.	Specify number of seconds that a program will run before being killed.


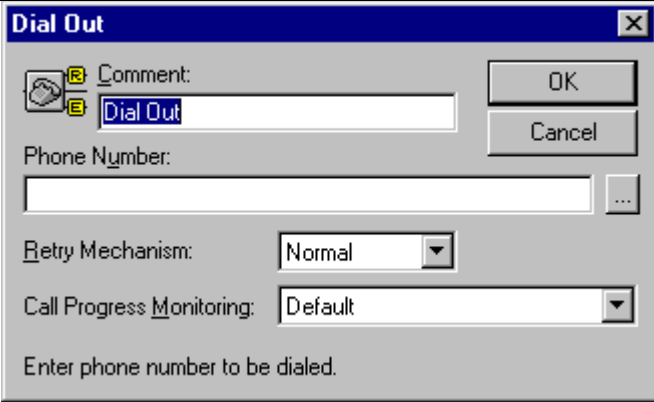
Clear Connection Time - Resets the channel's connection time to zero. Used when there are multiple applications in a single workflow and the amount of time spent in one application needs to be ignored.

	
---	--


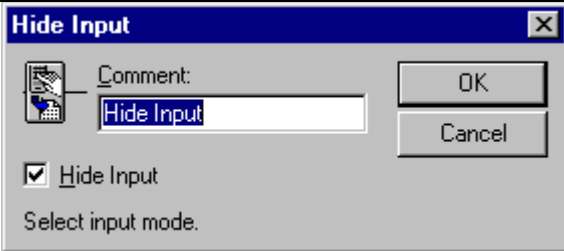
<p>Send Debug Event-to-Event Monitor - Sends messages to the Stream Center Event Monitor.</p>	
	
Features	Description
Debug Message	Specifies the information (including user and system defined parameters) displayed under the Text section in the Event Monitor.

<p>Need Port - Allows the application to seize an available port for outbound dialing purposes. Exits via the (R)eset link if we were unable to get a port, the Normal link if a port was able to be retrieved from the system, or the (E)rror link if any other error code is received.</p>	
	
Features	Description
Port group	Specifies the port groups to choose from for outbound dialing.


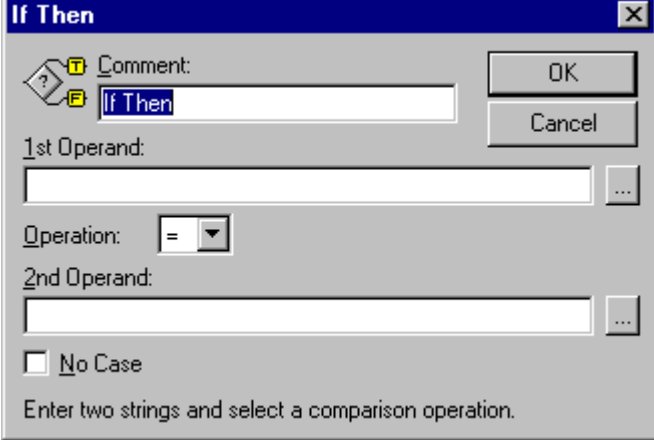
Dial Out - Dials the specified number after retrieving a port with the **Need a Port** block. For example, Voice Mail Notification will call a voice mail system and leave a prerecorded message notifying the recipient of the fax that they have a new fax.

	
Features	Description
Phone Number	Specifies the number to be dialed. Could also be a parameter.
Retry Mechanism	Specifies how we retry if we fail to get through to the specified number. Options are: <ul style="list-style-type: none"> • Normal • No Retries • Extra Retries
Call Progress Monitoring	Specifies how the system “listens” to the calls being made. Options are: <ul style="list-style-type: none"> • Disabled • Through first ring back • Fully Enabled


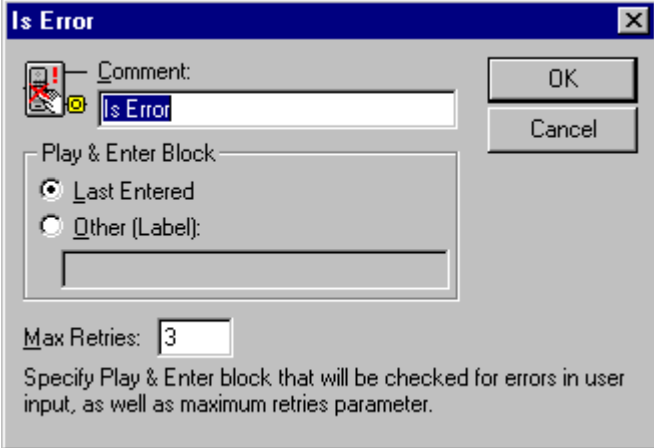
Hide Input - Hides any sensitive information being entered by the caller. For example, a caller’s Personal Identification Number (PIN) probably should not be logged in the database.

	
---	--

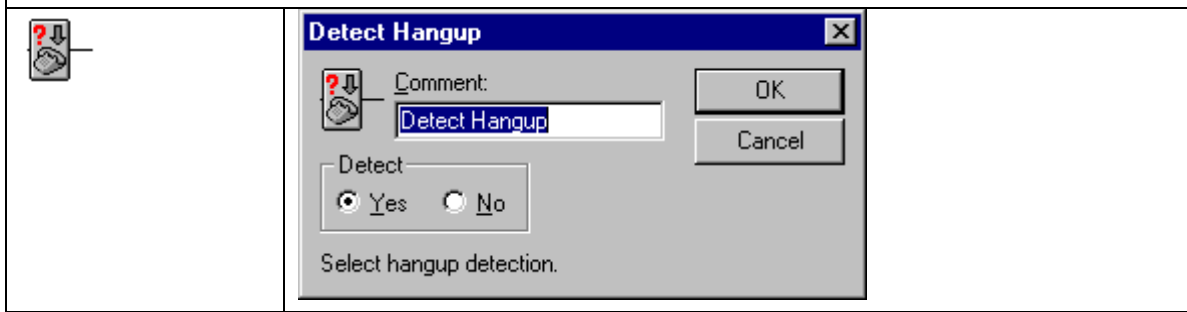
If Then – Verifies Operand 1 against Operand 2. Operation verification can be equal (=), not equal (<>), less than (<), greater than (>), less than or equal to (<=), or greater than or equal to (>=). Exits via the **(T)** rue link if the operation is true or via the **(F)**alse link if the operation is false.

	
Features	Description
Case Sensitive	(Default – Unchecked)

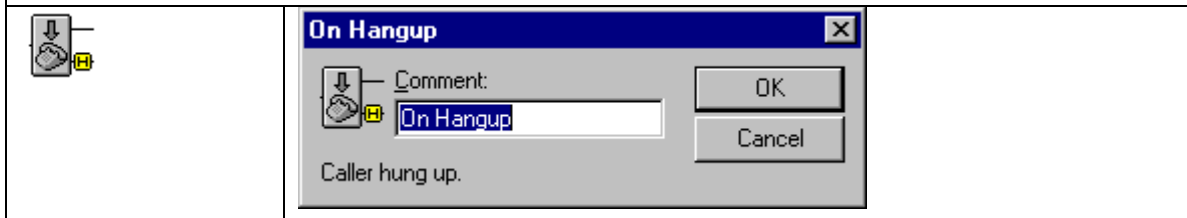
Is Error - Counts the errors a caller makes when responding to a *Play and Enter* block.

		
Features	Description	
Play and Enter Block	Allow you to specify which Play and Enter block to use.	
	Option	Description
	Last Enter	Refers to the Last Play and Enter block the caller heard before the error.
Other	Refers to the Play and Enter block's label you specify.	
Max Retries	Sets the number of errors that can occur and exits the (O) ut retries line if this number is reached.	

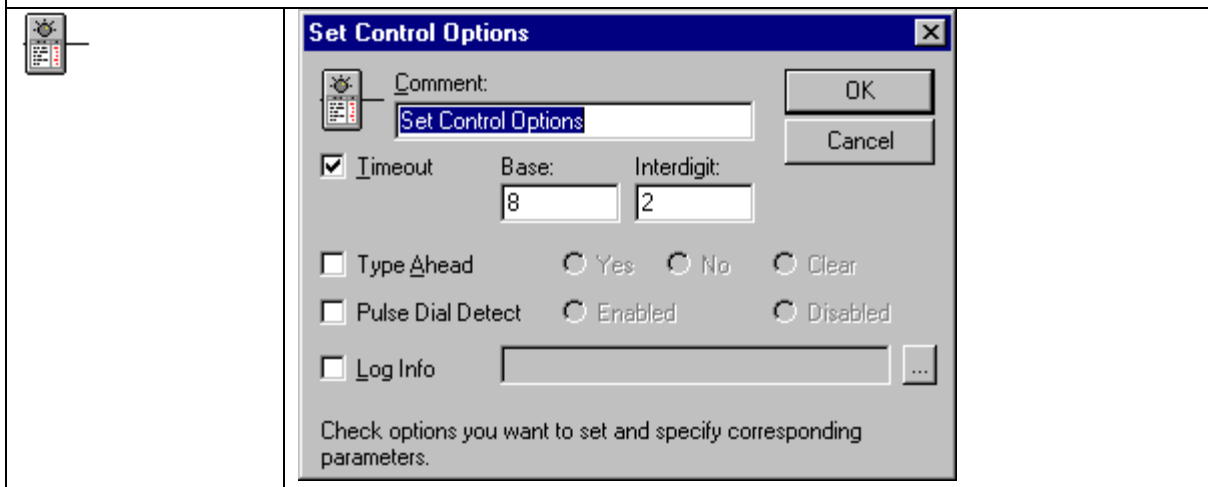
Detect Hang-up - Allows the system to detect whether the caller hung up. This will only work if the phone switch can tell us if there was a drop.



On Hang-up - Instructs the application how to proceed if the caller hangs up before the application has completed.



Set Control Options - Sets basic characteristics of the application such as whether type-ahead is allowed, level of call progress monitoring, and timeout period.




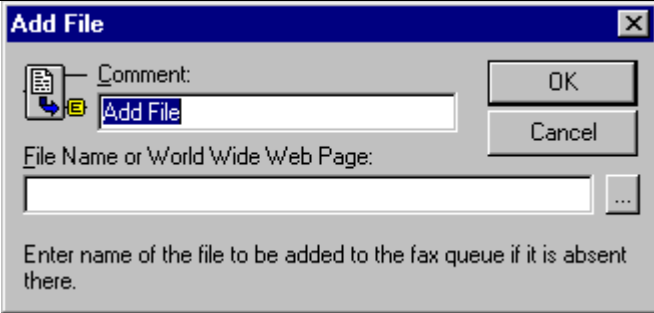
Features	Description	
Timeout	Refers to the amount of time allowed for a caller to enter DTMF information for a caller to enter DTMF information before we exit the (T)imeout link.	
	Option	Description
	Base	Refers to the amount of time we wait for the first key to be pressed.
	Interdigit	Refers to the amount of time for a key to be pressed after the first key.
Type Ahead	Specifies how the caller moves from prompt to prompt.	
Pulse Dial Detect	Detects responses from pulse dial telephones.	
Log Info	Stores user-defined information to the Fax Queue database in the Info field of the SystemJobList table. The information can be up to 255 characters.	




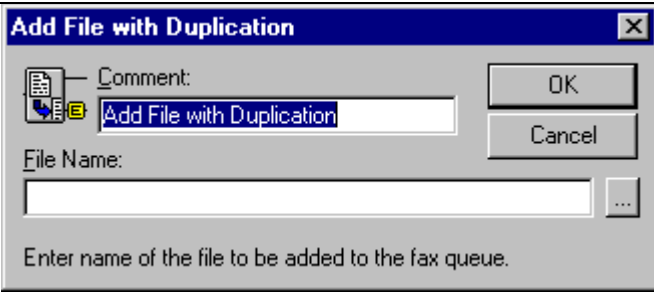
End Call - Ends the call currently in progress.

Fax Queue Palette 


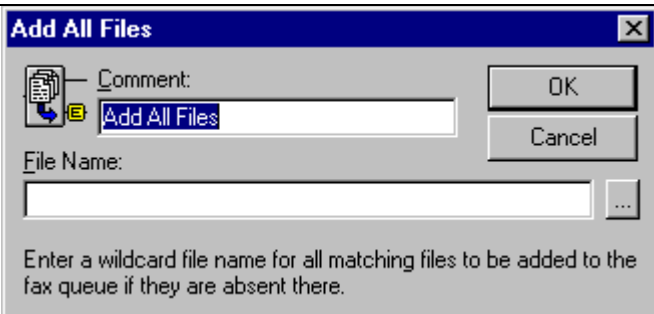
Add File - Adds a file to the Send Queue, a temporary holding area for files that are being retrieved as a fax. Exits the (E)rror link if the file or URL cannot be added.

	
Features	Description
File Name or World Wide Web Page	Specifies the file or URL of the file that is to be faxed out.

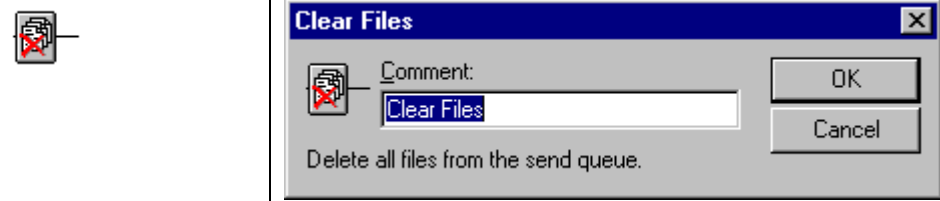
Add File with Duplication – Adds duplicate files to the Send Queue, a temporary holding area for files that are being retrieved as a fax. Exits via the (E)rror link if file or URL cannot be added.

	
--	---

Add All Files - Adds a file to the Send Queue, a temporary holding area for files that are being retrieved as a fax. Will accept wild cards for multiple documents to be selected for faxing.

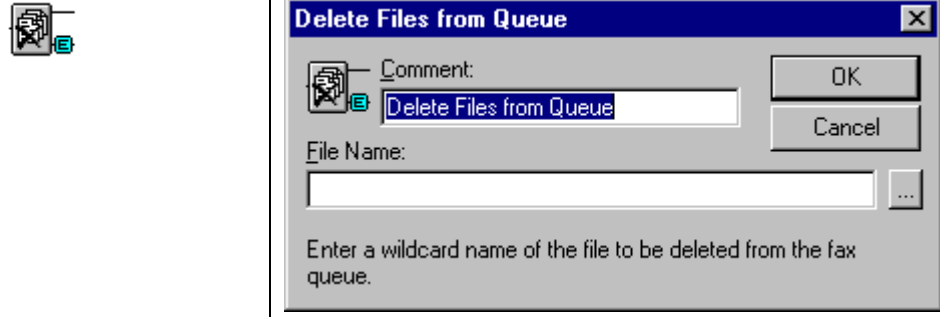
	
---	--

Clear Files - Removes all files from the Send Queue.



The dialog box titled "Clear Files" has a blue header bar with a close button (X). Below the header, there is a comment field containing the text "Clear Files". To the right of the comment field are "OK" and "Cancel" buttons. Below the comment field, there is a text area containing the instruction "Delete all files from the send queue."

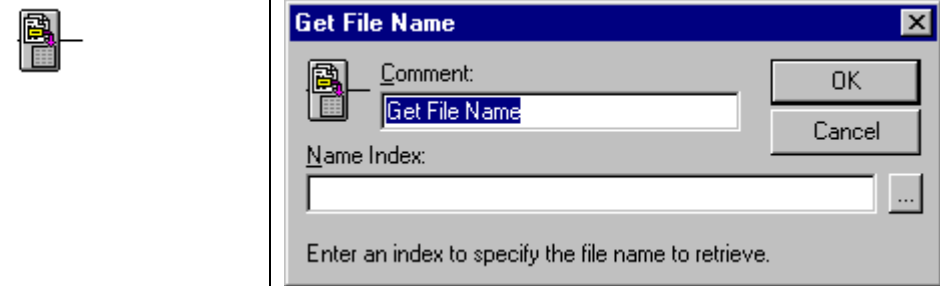
Delete Files from Queue - Deletes specified files from Send Queue



The dialog box titled "Delete Files from Queue" has a blue header bar with a close button (X). Below the header, there is a comment field containing the text "Delete Files from Queue". To the right of the comment field are "OK" and "Cancel" buttons. Below the comment field, there is a "File Name:" label followed by a text input field and a browse button (...). Below the input field, there is a text area containing the instruction "Enter a wildcard name of the file to be deleted from the fax queue."

Features	Description
File Name	Specifies the name of the file to be removed from the Send Queue.

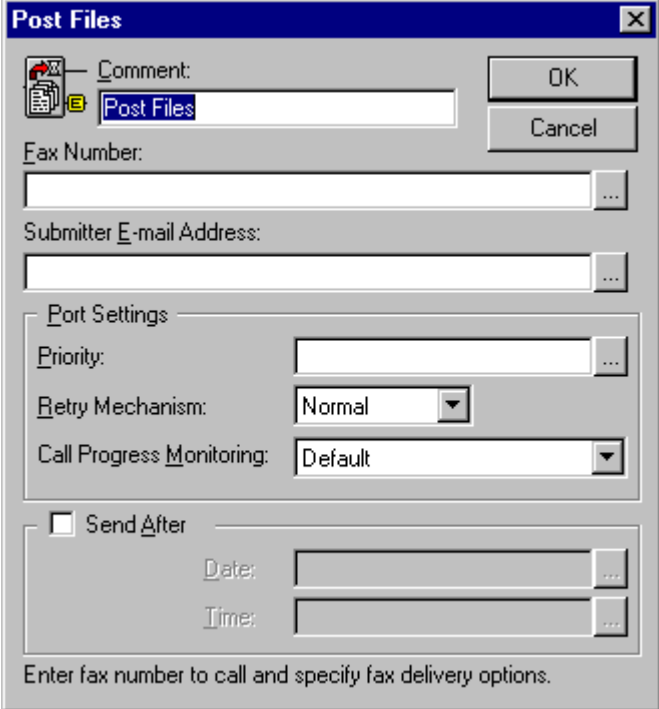
Get File Name - Retrieves the names of files in the Send Queue.



The dialog box titled "Get File Name" has a blue header bar with a close button (X). Below the header, there is a comment field containing the text "Get File Name". To the right of the comment field are "OK" and "Cancel" buttons. Below the comment field, there is a "Name Index:" label followed by a text input field and a browse button (...). Below the input field, there is a text area containing the instruction "Enter an index to specify the file name to retrieve."

Features	Description
Name Index	Specifies the position of the file name in the one-based index (the first file is number one).


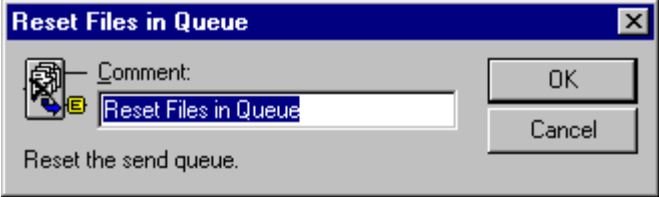
Post Files - Puts the files in the send queue into the Fax Queue database.




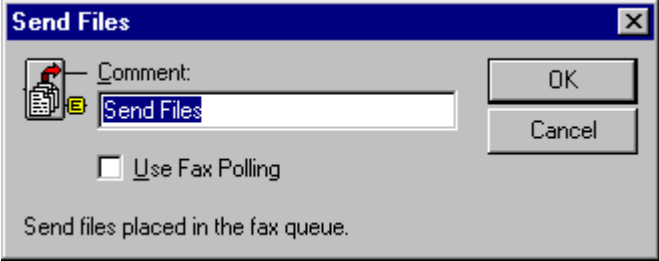
Features	Description	
Fax Number	Specifies the number where the fax will be sent.	
Submitter's Email Address	Used for return receipt information.	
Retry Mechanism	Specifies how we retry if we fail to get through to the specified number. Options are: <ul style="list-style-type: none"> • Normal • No Retries • Extra Retries 	
Call Progress Monitoring	Specifies how the system "listens" to the calls being made. Options are: <ul style="list-style-type: none"> • Default • Disabled • Through First Ring Back • Fully Enabled 	
Send After	(Default - Unchecked). Allows the faxes to be sent the number of times that the user specifies.	
	Features	Description
	Date	Specifies the date to send. Can use {CurrentTime} workflow parameter and only the date will be used.

	Time	Specifies the time to send. Can use {CurrentTime} workflow parameter and only time will be used.
--	------	---

Reset Files in Queue - Resets the Send Queue so that it contains the same files it did before the last **Send Files** or **Post Files**.

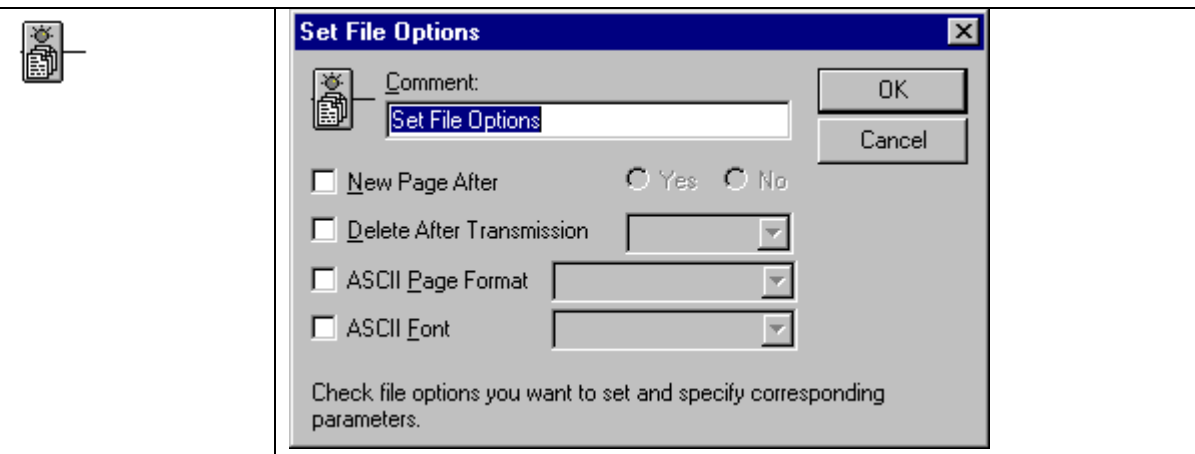
	
---	--

Send Files - Used for one-call retrieval (a caller is calling from a fax machine to retrieve the faxes on the same call).

	
---	---

Features	Description
Use Fax Polling	(Default – Unchecked). Sets the use of Fax Polling Protocol to be used.


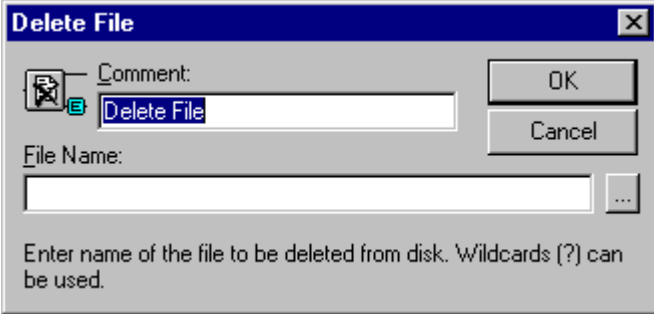
Set File Options - Sets file options for files being posted. You should set these options before the Add File blocks.




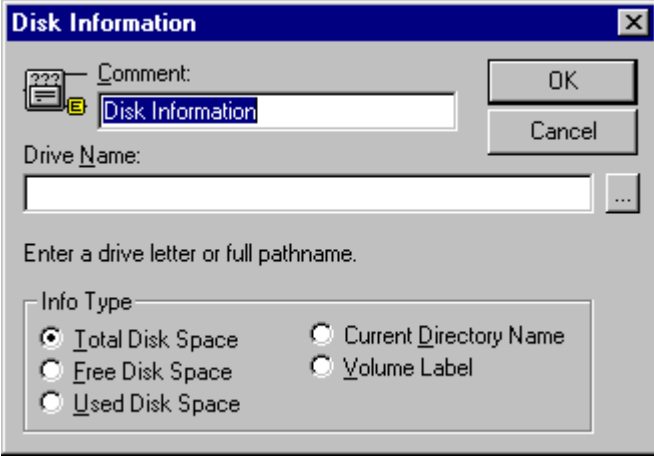
Features	Description	
New After Page	Used when multiple files are to be faxed to determine when a new page should be started.	
	Options	Description
	Yes	Inserts page break
	No	Merges two pages together.
Delete After Transmission	Removes the original file from the system according to the option selected.	
	Options	Description
	Never	Does not delete file for any reason.
	Always	Deletes file always.
ASCII Page Format	Specifies the page size for a text document	
	Options	Descriptions
	Letter	8.5" X 11"
	Legal	8.5" X 14"
ASCII Font	A4	210mm X 297mm
	Specifies the size of the font.	
	Options	Description
	Standard	80 characters per line
	Compressed	132 characters per line.

Disk and File Operations Palette

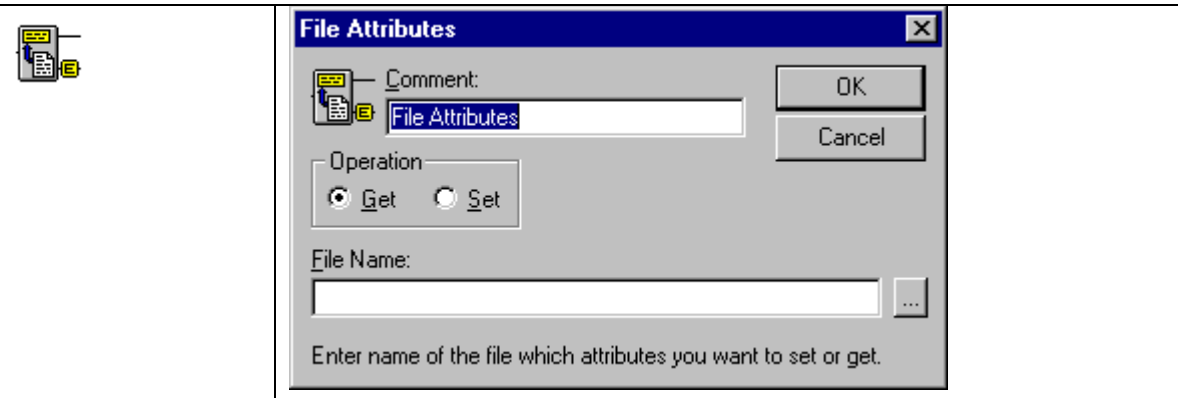
Delete File - Deletes the specified file(s) from the send queue. Exits via the (E)rror link if the file does not exist or we do not have sufficient rights to delete the file.

	
Features	Description
File Name	Specifies the name(s) of the file(s) to delete. You can use wildcards (* and ?).

Disk Information - Retrieves information about the specified disk drive information and stores it in the Work Buffer.


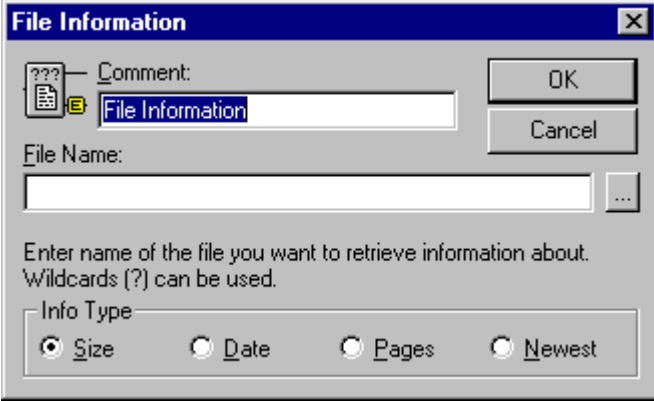
	
Features	Description
Drive Name	Specifies the name of the drive and path if available.
Info Type	Specifies the type of information to be retrieved.
Total Disk Space	Retrieves the total amount of disk space (free and available).
Free Disk Space	Retrieves the amount of free disk space available.
Used Disk Space	Retrieves the amount of used disk space
Current Directory	Retrieves the name of the directory that has the current focus.
Volume Label	Retrieves the name of the drive.

File Attributes - Allows file attributes to be retrieved or changed and stored in the Work Buffer.


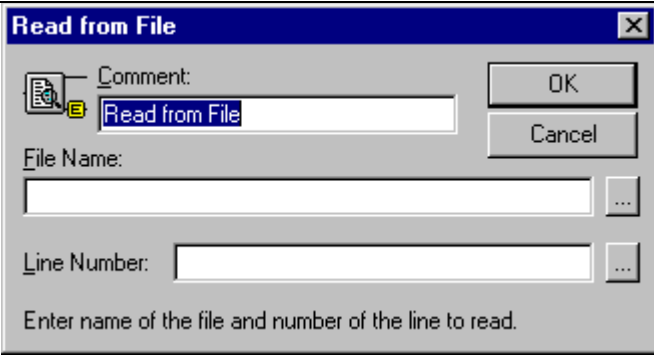


Features	Description
Operation	Either Get or Set the attributes.
File Name	Specifies the name of the file to retrieve attributes from or set attributes to. For setting attributes, you must also specify the attribute and whether or not it should be turned on or off. For example, \\Stream\Documents\1001.tif +r makes the file read only.


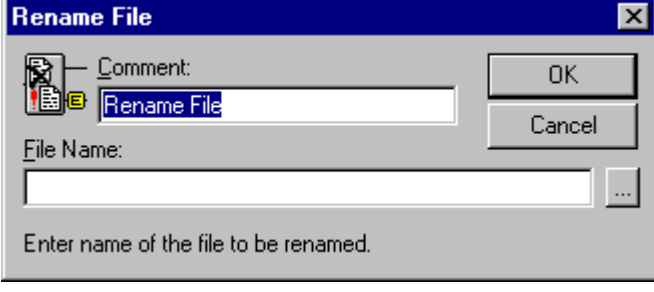
File Information - Retrieves information about the specified file. Exits via the **(E)**rror link if the File Name specified does not exist.

																					
<p>Features</p>	<p>Description</p>																				
<p>File Name</p>	<p>Specifies the name of the file to retrieve information about.</p>																				
<p>Info Type</p>	<p>Specifies the type of information to be retrieved.</p>																				
<table border="1"> <thead> <tr> <th data-bbox="181 886 444 926">Option</th> <th data-bbox="451 886 1339 926">Description</th> </tr> </thead> <tbody> <tr> <td data-bbox="181 934 444 974">Size</td> <td data-bbox="451 934 1339 974">Gets the file size in bytes.</td> </tr> <tr> <td data-bbox="181 982 444 1022">Date</td> <td data-bbox="451 982 1339 1022">Gets the last modified date.</td> </tr> <tr> <td data-bbox="181 1031 444 1071">Pages</td> <td data-bbox="451 1031 1339 1071">Retrieves the number of pages for a TIFF image.</td> </tr> <tr> <td data-bbox="181 1079 444 1119">Newest</td> <td data-bbox="451 1079 1339 1119">Retrieves the name of the file with the last modified date.</td> </tr> </tbody> </table>	Option	Description	Size	Gets the file size in bytes.	Date	Gets the last modified date.	Pages	Retrieves the number of pages for a TIFF image.	Newest	Retrieves the name of the file with the last modified date.	<table border="1"> <thead> <tr> <th data-bbox="464 886 667 926">Option</th> <th data-bbox="673 886 1339 926">Description</th> </tr> </thead> <tbody> <tr> <td data-bbox="464 934 667 974">Size</td> <td data-bbox="673 934 1339 974">Gets the file size in bytes.</td> </tr> <tr> <td data-bbox="464 982 667 1022">Date</td> <td data-bbox="673 982 1339 1022">Gets the last modified date.</td> </tr> <tr> <td data-bbox="464 1031 667 1071">Pages</td> <td data-bbox="673 1031 1339 1071">Retrieves the number of pages for a TIFF image.</td> </tr> <tr> <td data-bbox="464 1079 667 1119">Newest</td> <td data-bbox="673 1079 1339 1119">Retrieves the name of the file with the last modified date.</td> </tr> </tbody> </table>	Option	Description	Size	Gets the file size in bytes.	Date	Gets the last modified date.	Pages	Retrieves the number of pages for a TIFF image.	Newest	Retrieves the name of the file with the last modified date.
Option	Description																				
Size	Gets the file size in bytes.																				
Date	Gets the last modified date.																				
Pages	Retrieves the number of pages for a TIFF image.																				
Newest	Retrieves the name of the file with the last modified date.																				
Option	Description																				
Size	Gets the file size in bytes.																				
Date	Gets the last modified date.																				
Pages	Retrieves the number of pages for a TIFF image.																				
Newest	Retrieves the name of the file with the last modified date.																				


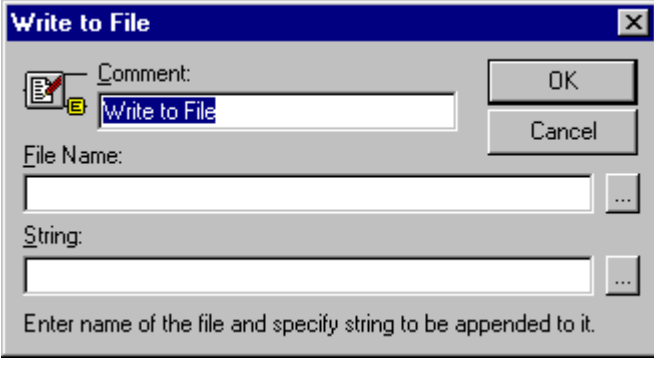
Read from File - Reads text information from files. Exits the **(E)**rror link if the line number or the file name does not exist.

	
<p>Features</p>	<p>Description</p>
<p>File Name</p>	<p>Specifies the name of the text file to read from.</p>
<p>Line Number</p>	<p>Specifies the line number within the text file to be read (one-based).</p>

Rename File - Renames a file. For this block to work the new name of the file has to be stored in the Work Buffer prior to using the block.



	
Features	Description
File Name	Specifies the name of the file to be renamed.

Write to File - Writes information to a text file with each Write to File block. If the file does not exist, it will be created and the information will be appended to it. Exits via the (E)rror link if the line number or the file name does not exist.



	
Features	Description
File Name	Specifies the name of the file that is to be written to.
String	Specifies the information to be written to the text file. If parameters are used they will be replaced at the time it is written.

Calculation and Conversion Palette 



Date and Time to Julian Date - Converts Gregorian calendar date/time to Julian Date (number of seconds since January 1, 1970). The input date/time is loaded into the Work Buffer before the block, and it stores the Julian Date back in the Work Buffer. For the input, if no time is specified, it will be assumed to be 12am of the date specified.

	<div style="border: 1px solid gray; padding: 5px;"> <div style="background-color: #000080; color: white; padding: 2px; display: flex; justify-content: space-between;"> Date and Time to Julian Date ✕ </div> <div style="padding: 5px;"> <div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="text-align: left;">  <p>Comment:</p> <input style="width: 150px;" type="text" value="Date and Time to Julian Date"/> </div> <div style="text-align: right;"> <input type="button" value="OK"/> <input type="button" value="Cancel"/> </div> </div> <p style="font-size: small; margin-top: 5px;">Convert regular date and time into Julian date.</p> </div> </div>
---	---

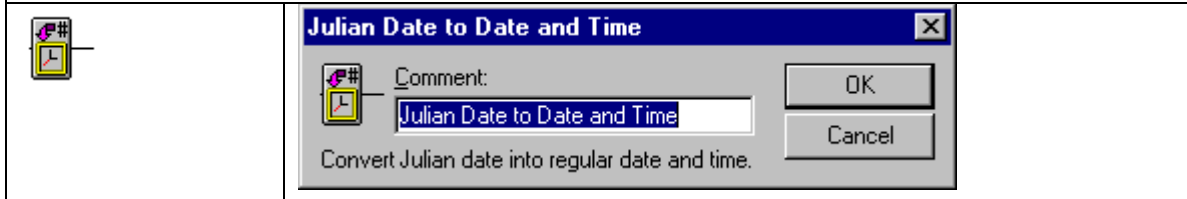
Decimal to Hexadecimal - Converts a decimal value to the corresponding hexadecimal value. The input decimal number is loaded into the Work Buffer before the block, and it stores the hexadecimal number back in the Work Buffer.

	<div style="border: 1px solid gray; padding: 5px;"> <div style="background-color: #000080; color: white; padding: 2px; display: flex; justify-content: space-between;"> Decimal to Hexadecimal ✕ </div> <div style="padding: 5px;"> <div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="text-align: left;">  <p>Comment:</p> <input style="width: 150px;" type="text" value="Decimal to Hexadecimal"/> </div> <div style="text-align: right;"> <input type="button" value="OK"/> <input type="button" value="Cancel"/> </div> </div> <p style="font-size: small; margin-top: 5px;">Convert decimal number in Work Buffer into hexadecimal number.</p> </div> </div>
---	--

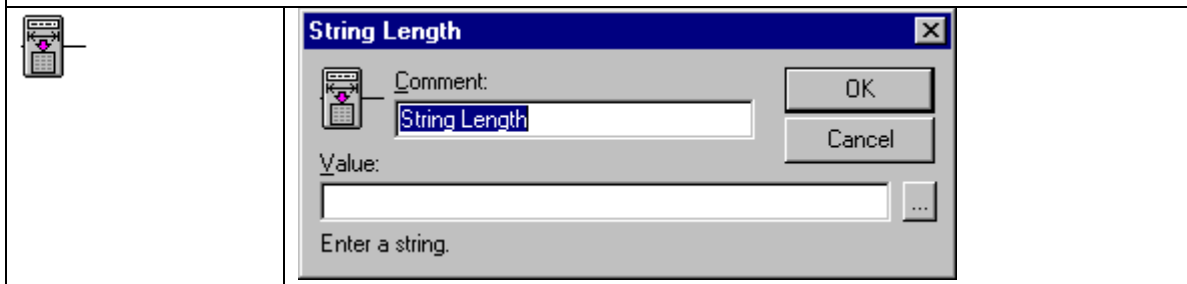
Hexadecimal to Decimal - Converts a hexadecimal value to the corresponding decimal value. The input hexadecimal number is loaded into the Work Buffer before the block, and it stores the decimal number back in the Work Buffer.

	<div style="border: 1px solid gray; padding: 5px;"> <div style="background-color: #000080; color: white; padding: 2px; display: flex; justify-content: space-between;"> Hexadecimal to Decimnal ✕ </div> <div style="padding: 5px;"> <div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="text-align: left;">  <p>Comment:</p> <input style="width: 150px;" type="text" value="Hexadecimal to Decimal"/> </div> <div style="text-align: right;"> <input type="button" value="OK"/> <input type="button" value="Cancel"/> </div> </div> <p style="font-size: small; margin-top: 5px;">Convert hexadecimal number in Work Buffer into decimal number.</p> </div> </div>
---	---

Julian Date to Date and Time - Converts a Julian date and time to Gregorian calendar date/time. The input date/time is loaded into the Work Buffer before the block, and it stores the Gregorian date back in the Work Buffer. For the input, if no time is specified, it will be assumed to be 12am of the date specified.


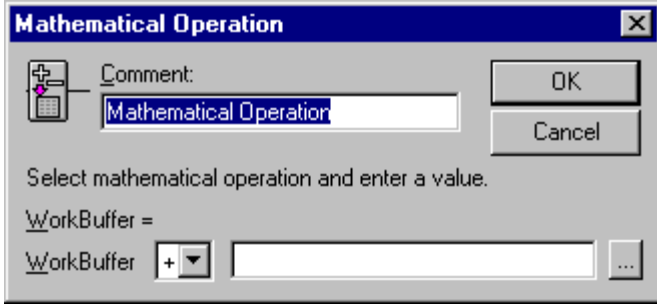


String Length - Retrieves the length of the specified string value and stores the value in the Work Buffer.


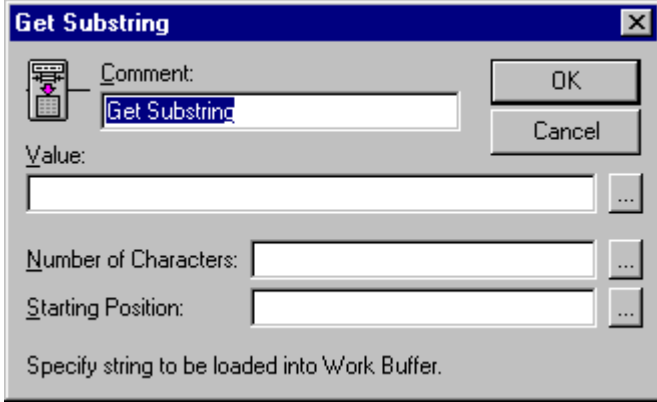



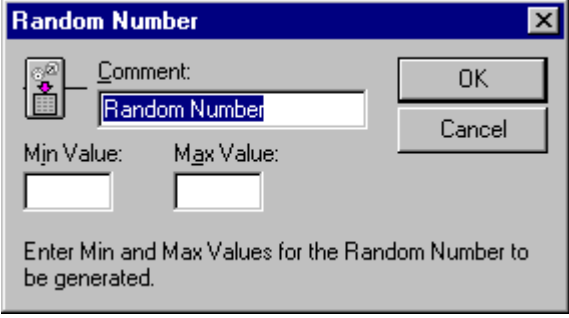
Features	Description
Value	Specifies the string whose length is to be returned.


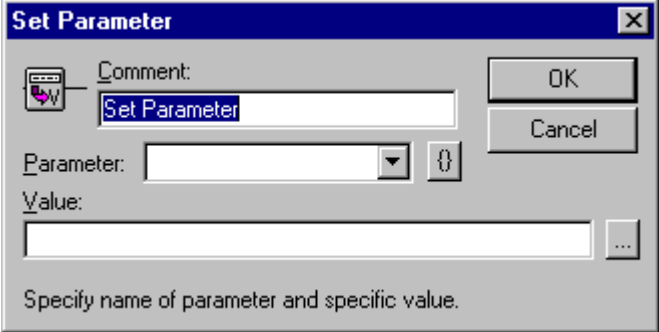
Mathematical Operation - Performs mathematical calculations (+, -, *, /) using the current value of the Work Buffer and returns the calculated value to the Work Buffer.

	
<p>Operators drop-down list</p>	<p>Description</p>
<p>+</p>	<p>Add</p>
<p>-</p>	<p>Subtract</p>
<p>*</p>	<p>Multiple</p>
<p>/</p>	<p>Divide. Division will always return the whole number to the left of the decimal point (no modulo will be returned).</p>

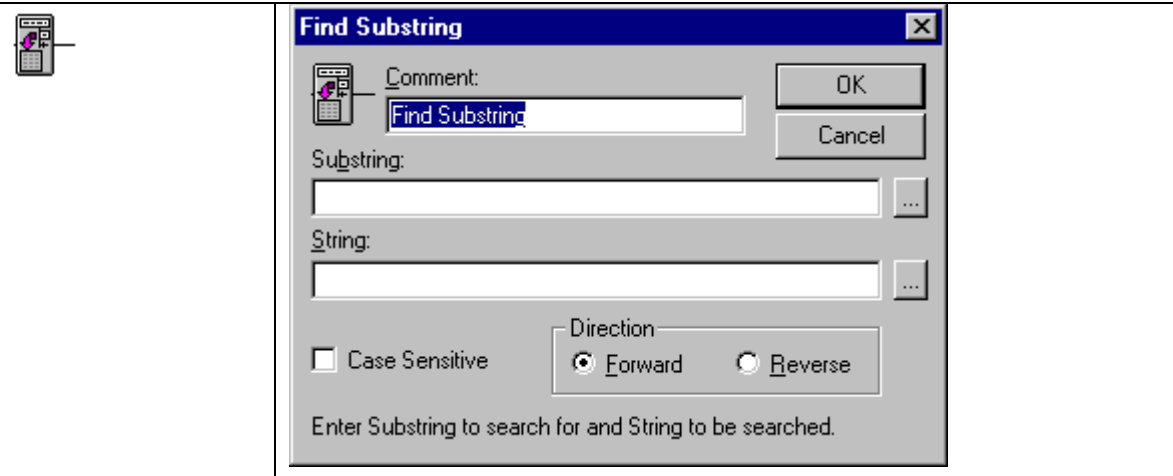
Get Substring - Retrieves a subset of a string of data which will be stored in the Work Buffer.

	
<p>Features</p>	<p>Description</p>
<p>Value</p>	<p>Specifies the value of the string to retrieve information.</p>
<p>Number of Characters</p>	<p>Specifies the number of characters to retrieve from the string of data.</p>
<p>Starting Position</p>	<p>Specifies the number that will be associated with the beginning of the substring.</p>

Random Number - Generates a random number (0 – 9999) that is stored in the Work Buffer.	
	
Features	Description
Min Value	Specifies the minimum value the number can be.
Max Value	Specifies the maximum value the number can be.

Set Parameter - Allows you to store information in specified parameters.	
	
Features	Description
Parameter	Selected from a list of available parameters from the combo box or create an application parameter using the {} button.
Value	Specifies the associated value of the parameter.


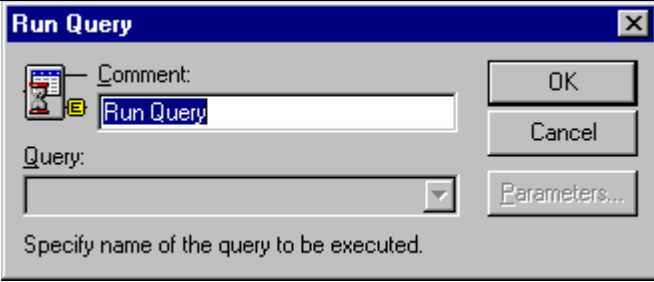
Find Substring - Returns a numeric value for the placement in the string where the substring exists and is stored in the Work Buffer.




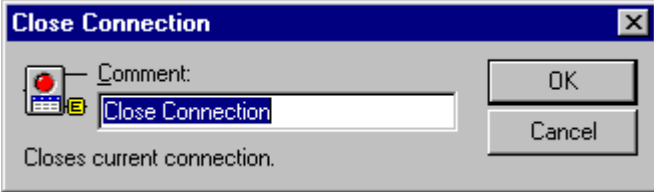
Features	Description						
Substring	Specifies the value to be searched for.						
String	Specifies what is to be searched.						
Case Sensitive	Specifies whether the string to be searched for is an exact match of upper and lower case.						
Direction	Specifies the direction to start the search. The value returned is a count from the beginning of the string no matter which direction is chosen.						
	<table border="1" data-bbox="456 1125 1347 1173"> <thead> <tr> <th data-bbox="456 1125 643 1173">Option</th> <th data-bbox="647 1125 1347 1173">Description</th> </tr> </thead> <tbody> <tr> <td data-bbox="456 1173 643 1222">Forward</td> <td data-bbox="647 1173 1347 1222">Left to Right</td> </tr> <tr> <td data-bbox="456 1222 643 1264">Reverse</td> <td data-bbox="647 1222 1347 1264">Right to Left</td> </tr> </tbody> </table>	Option	Description	Forward	Left to Right	Reverse	Right to Left
	Option	Description					
	Forward	Left to Right					
Reverse	Right to Left						
Forward	Left to Right						
Reverse	Right to Left						

Database Operations Palette 

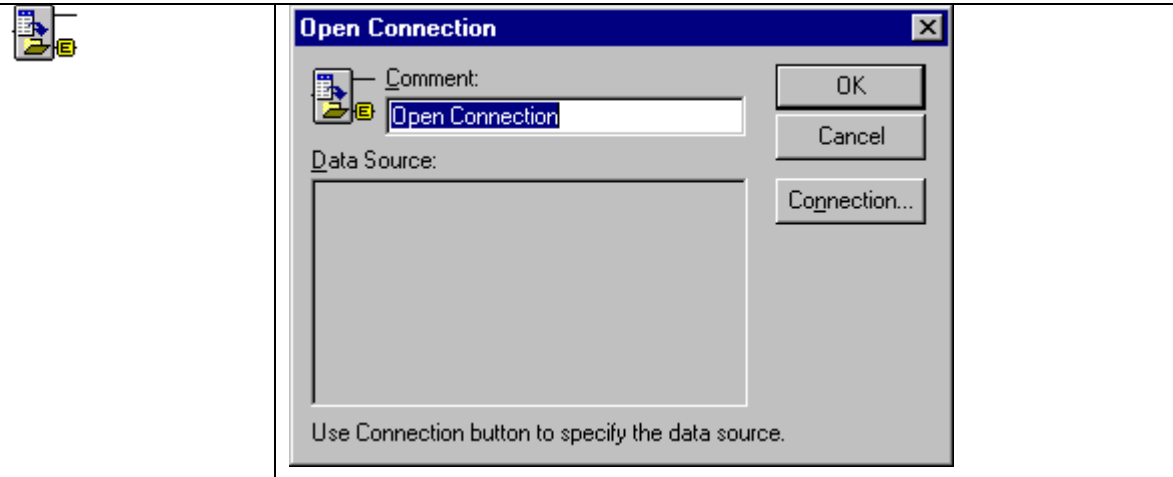
Run Database Action - Searches for executable database statements and queries the parameters before executing.

	 <p>The dialog box is titled "Run Query" and contains a "Comment:" field with the text "Run Query", a "Query:" dropdown menu, and buttons for "OK", "Cancel", and "Parameters...". Below the fields is the instruction "Specify name of the query to be executed."</p>
---	--

Close Connection - Closes a connection to an OLE DB data source.

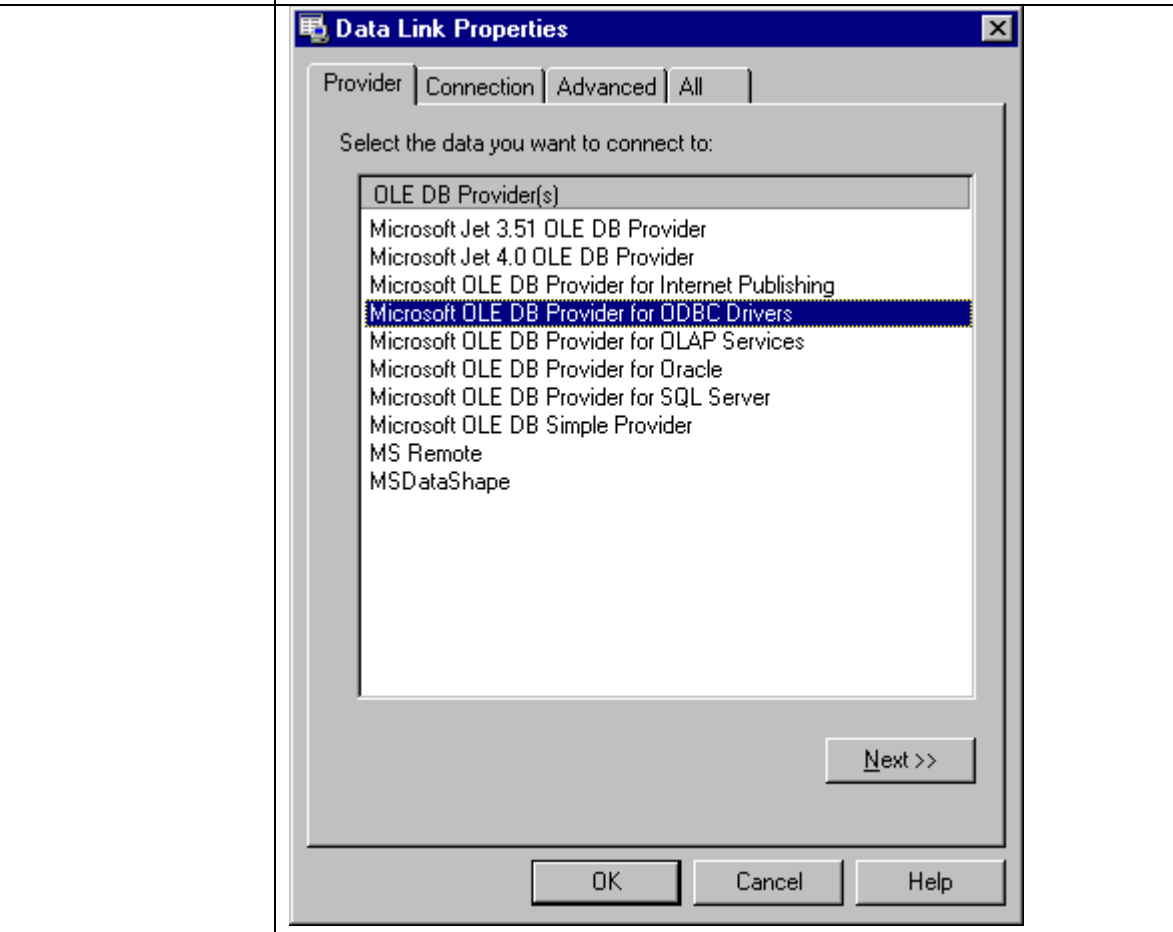
	 <p>The dialog box is titled "Close Connection" and contains a "Comment:" field with the text "Close Connection" and buttons for "OK" and "Cancel". Below the field is the instruction "Closes current connection."</p>
---	---

Open Connection - Opens a connection to an OLE DB data source. Only one open connection block can be used per application. Exits via the (E)rror link if the data source connection cannot be established at the time of the call.

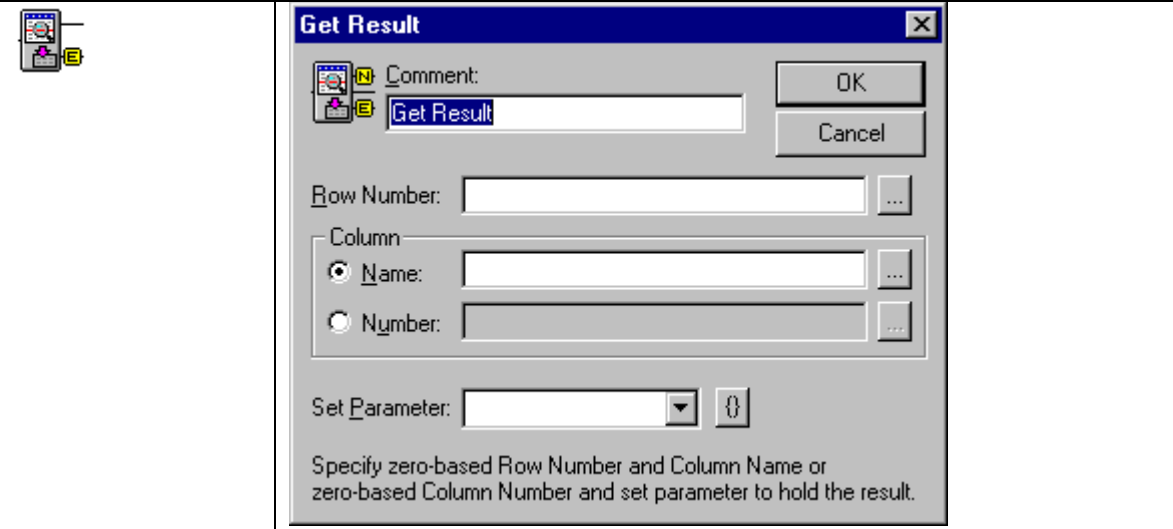


Features	Description
----------	-------------


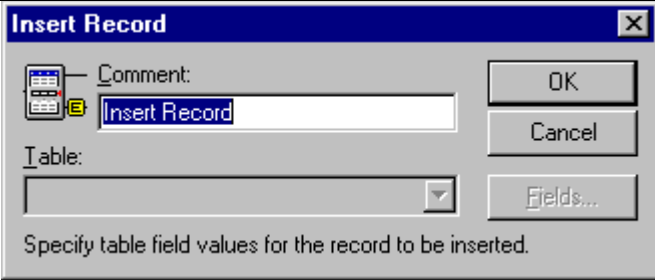
Connection	Calls out to the OLE DB data link to allow the data source type and available data to be selected.
------------	--


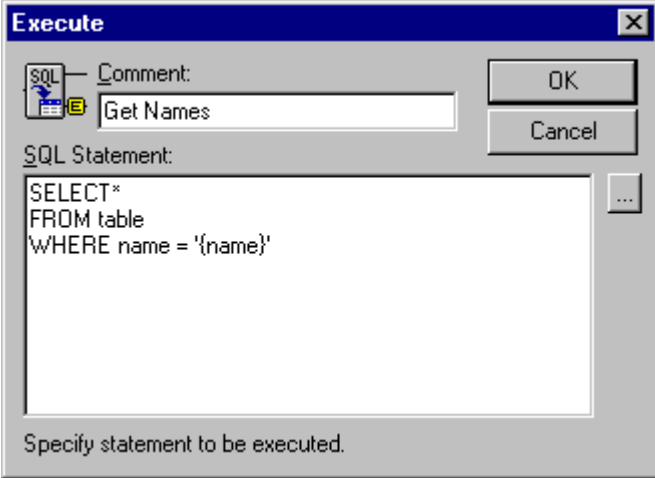


Get Result - Facilitates the retrieval of data from a query or stored procedure. Exits via the **(N)**o records link if no records can be retrieved. If the row exists but the column is blank or null the specified parameter will still hold an empty value. Exits via the **(E)**rror link if a system error occurs.


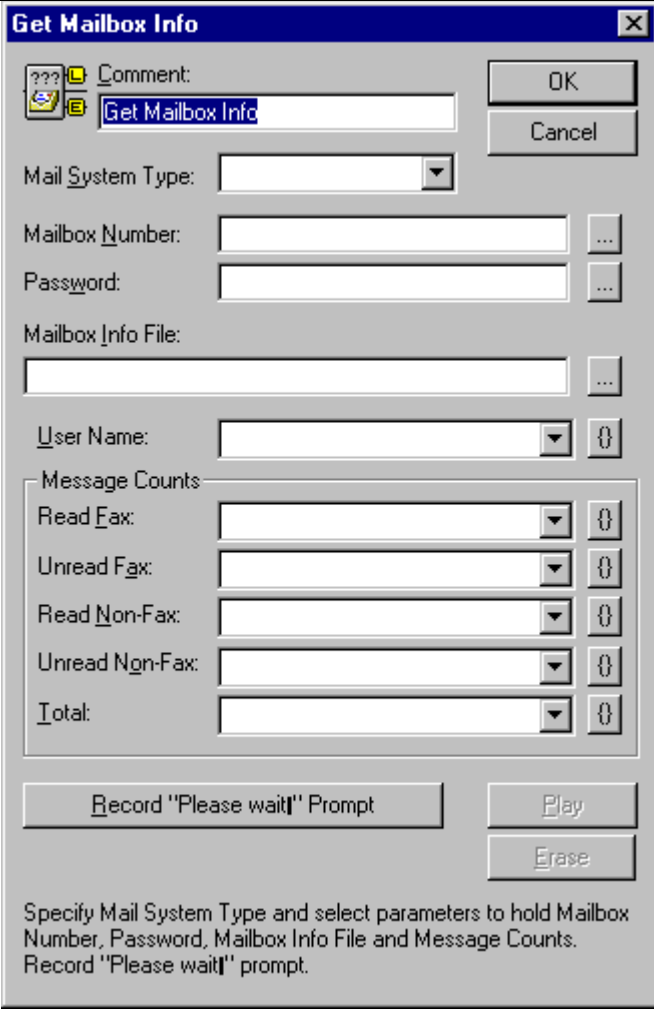


Features	Description
Row Number	Specifies the row number of the data to be retrieved. This is a zero-based number (meaning that the first row is zero and not one).
Column	Specifies the column of the data to be retrieved. This can either be selected by the Name or by the Number (also zero-based)
Set Parameter	Specifies the name of the parameter where the row-column information is stored.

Insert Record - Inserts a record to the data source.	
	
Features	Description
Table	Displays all available tables for the data source selected. Once a table is selected the Fields button will be active.
Fields	Allows the selection of fields to be inserted into the data source table. The Field Name information is retrieved from the table selected automatically and set by you. If a field is not to be set, the associated parameter will be (not set) including the parentheses. It is case-sensitive.

Execute - Used to specify an SQL statement to be run against the connected data source. This is specific to the data source connected to. For example, if Oracle is running, you could run any SQL statement that could run on Oracle.	
	

Fax Mail Palette 

Get Mailbox Info - Retrieves information from the message store used for Fax Mail.		
		
Features	Description	
Mail System Type	Used to select the corresponding mail system source for fax mail.	
	Options	Description
	Exchange	Requires client software installed on the Stream Center system and the corresponding email system connections.
	Lotus Notes	Not currently available
	Stream Center	Uses a local database (EmailUser) for storing and retrieving fax mail information.
Mailbox Number	Specifies the user's mailbox number to retrieve information about.	
Password	Indicates the user's password for the mailbox security.	
Mailbox Info File	Specifies the name of the .rtf file that is built with all the information about all the messages in the user's mailbox.	


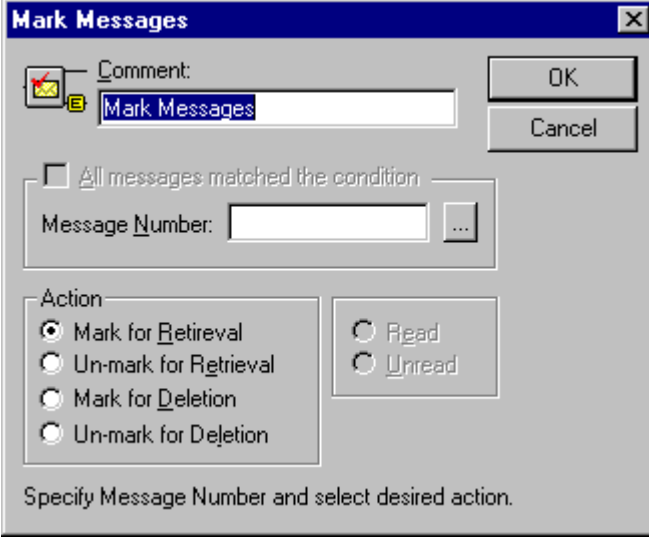
User Name	Specifies the name of the user that is retrieved from the mailbox database.
Message Counts	Specifies the number of each message type in the mailbox.
Record "Please Wait Prompt	Brings up the sound recorder to record a message that will be played periodically while we are trying to retrieve user information from the user's mailbox.

Get Message Info - Retrieves information about individual messages in the user's mailbox.


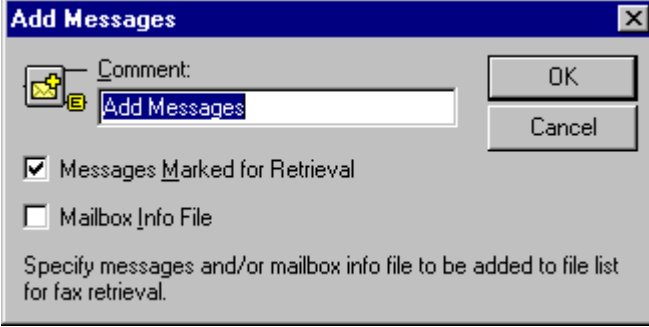
Features	Description				
Message Number	Specifies the message number to be retrieved from the user's mailbox. This is a one-based retrieval.				
Message Parameters	Indicates specific parameters being retrieved from individual messages				
	<table border="1"> <thead> <tr> <th>Options</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>From</td> <td>Specifies the parameter that holds the from name of the sender.</td> </tr> </tbody> </table>	Options	Description	From	Specifies the parameter that holds the from name of the sender.
Options	Description				
From	Specifies the parameter that holds the from name of the sender.				

	Subject	Specifies the parameter that holds the subject of the message
	Received	Specifies the parameter that holds the date the message was received
	Size	Specifies the parameter that holds the byte size of the message.
	Pages	Specifies the parameter that holds the page count of the faxes.
	Urgent	Specifies the parameter that holds the urgency of the message
	Type	Specifies the parameter that holds the type of message (fax or email).
	Read	Specifies the parameter that holds the information about whether the message is read or unread.
Attachment Counts	Specifies a count of any message attachments.	
	Options	Description
	Faxable	Specifies the number of faxable files, any files that have associated programs for conversion, as attachments.
	Non-faxable	Specifies the number of non-faxable files, files that cannot be converted for faxing, as attachments.

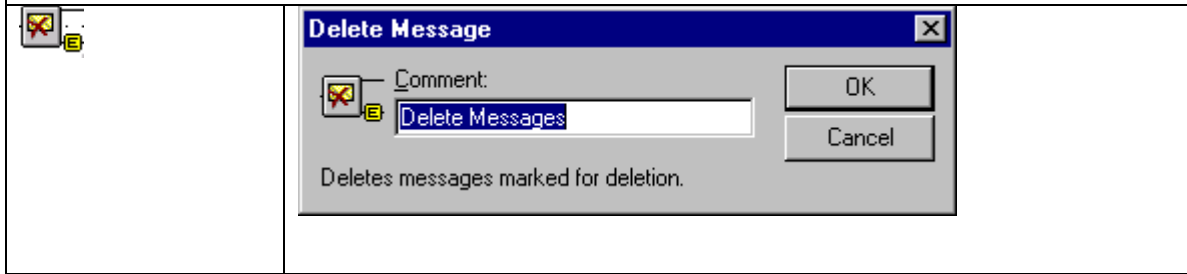
Mark Messages – Marks messages for retrieval or deletion.

	
Features	Description
Message Number	Specifies the number of the document that is to be marked. If zero is used here it will mark all messages.
Action	Specifies how the messages are to be marked. These actions are basically self-explanatory.

Add Messages - Specifies messages and/or a mailbox information file to be added to the Send Queue for retrieval. Exits via the (E)rror link if messages could not be added to the Send Queue.

	
Features	Description
Message Marked for Retrieval	(Default - Checked) Adds all messages that were marked to be sent to the Send Queue (using the Mark Message block).
Mailbox Info File	(Default - Unchecked) Adds the summary of mailbox information to the Send Queue.

Delete Messages - Deletes any messages marked for deletion with the Mark Messages block. Exits via the (E)rror link if messages could not be deleted.

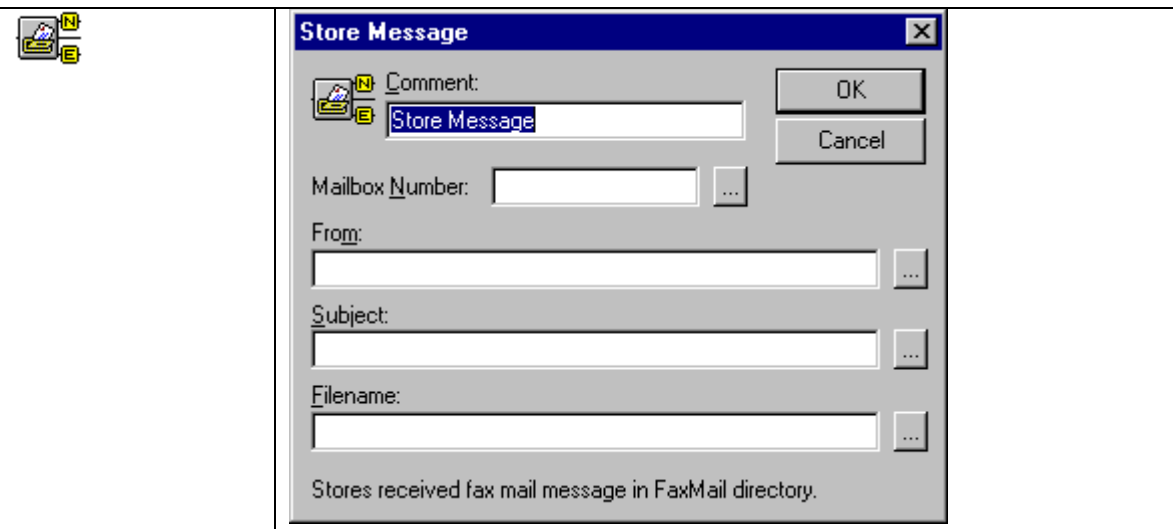


Set Password - Sets the Fax Mail password. Passwords have to be keys that can be entered in via a touch-tone phone (0-9, *, #).



Features	Description
Password	Specifies the new password for the user's mailbox.

Store Message - Stores received faxes into the EmailUser database. This is only used for Stream Center Fax Mail (also known as Stand Alone FaxMail).

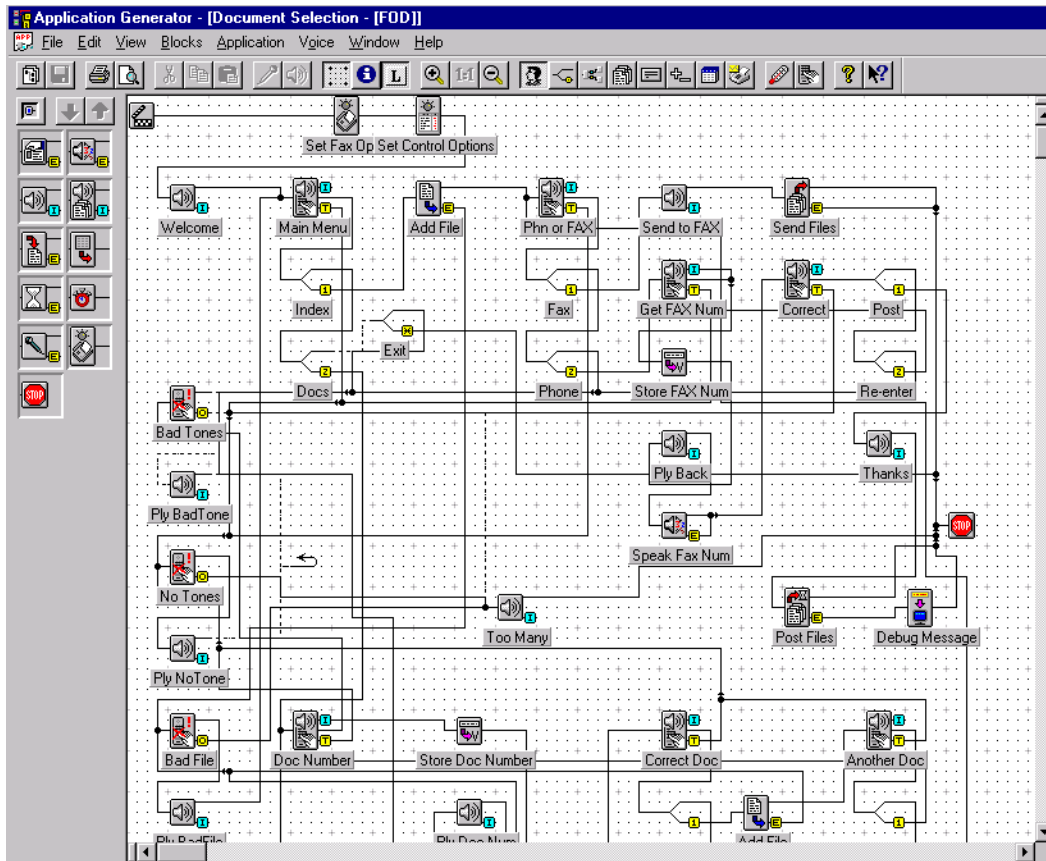


Features	Description
Mailbox Number	Associated with the DID (direct inward dial) number for the corresponding mailbox.
From	Specifies the name of the sender.
Subject	Specifies the subject assigned to the message (either Fax from Remote CSID or Fax from Unknown Sender depending on whether the fax machine has a CSID).
Filename	Specifies the name of the file that is to be stored in the database for later retrieval.

Application Example

Fax on Demand

The following example shows how blocks are combined to implement a basic fax on demand application. Fax on Demand is one of the sample workflows included with Stream Center.



This application:

- Sets faxing options (fax resolution, From Name, fax banner, etc.).
- Sets control options (timeout period during which the system waits for caller input, whether type-ahead is enabled, etc.).
- Plays welcome message to the caller.
- Prompts the caller to indicate whether they would like an index of documents which can include information from your web page, or if they want, to select documents by number.
- Places the documents the caller selects into a list of documents to be sent. Loops to allow multiple document selections.
- Processes errors (such as invalid document numbers, no response from caller, too many errors, etc.).
- Prompts the caller to indicate whether they are calling from a touch-tone phone or a fax machine.

If they are calling from a touch-tone phone, the phone number of the fax machine where the documents are to be delivered is collected; the fax number is verified with the caller; the files to be sent are posted; the caller is thanked and the application ends.

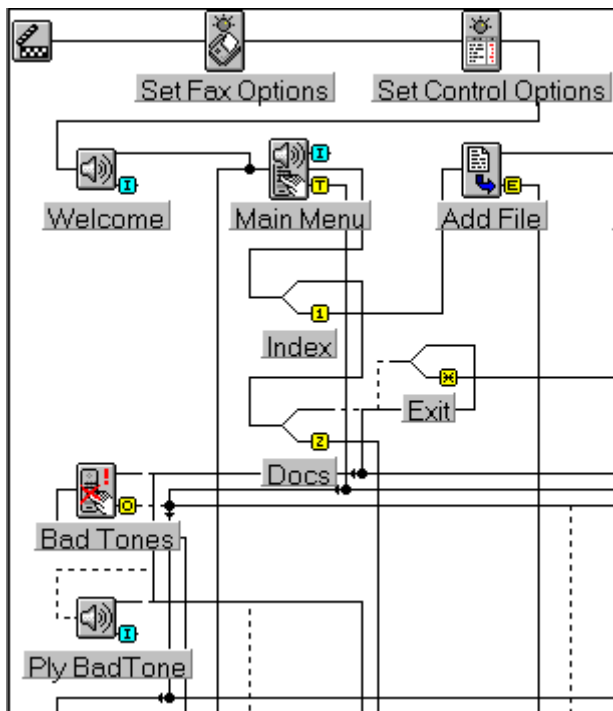
If they are calling from a fax machine, the caller is thanked and is directed to press the Start button when the fax tone is heard; the application ends.

- Sends a debug event to the Event Monitor if the faxes cannot be posted for any reason.

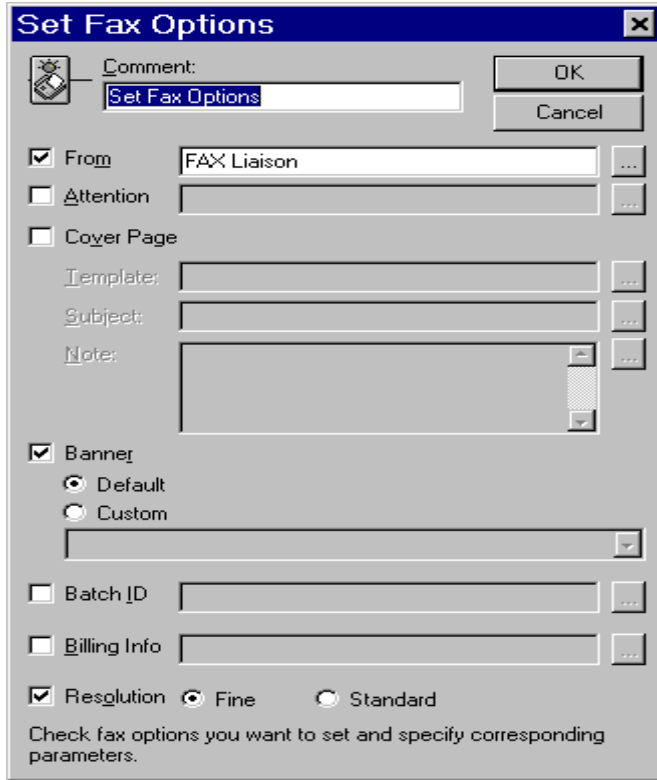
The output of the application is routed to an *Outbound Fax Queue* item for delivery. Once the faxes are queued for delivery, the workflow terminates (**Stop** item).

Set Up and Welcome

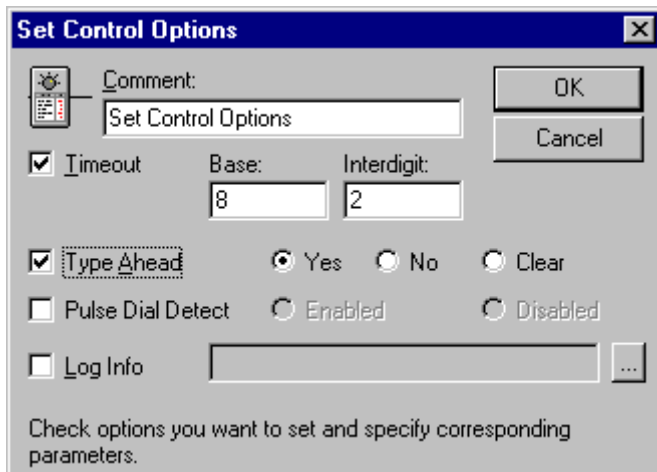
In this application, Start is followed by Set Fax Options (under the Caller Interface palette) and Set Control Options (under Internal Control palette).



Set Fax Options establishes the fax specifications for all fax documents sent by this application.



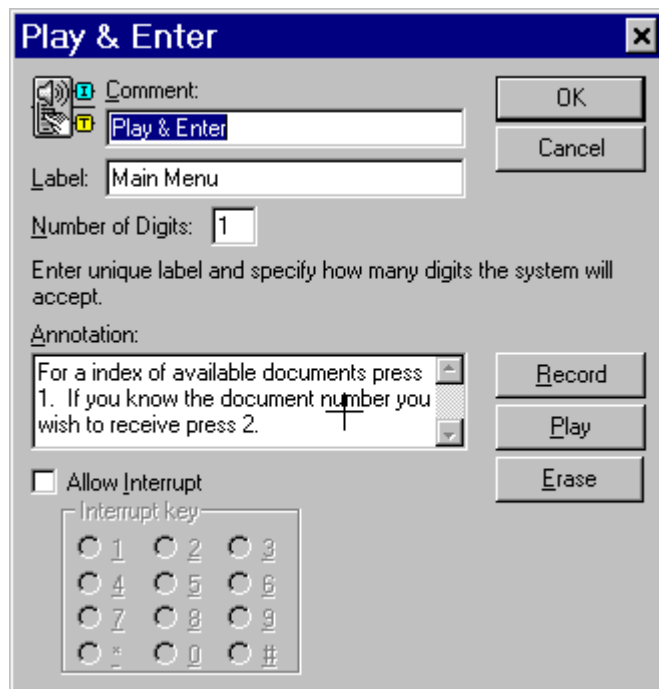
Set Control Options lets you specify basic application behaviors, such as whether type-ahead is allowed, and how long the application will wait for caller response when DTMF input is expected.



The **Welcome Play** block under the **Caller Interface** palette greets the caller and identifies the application.

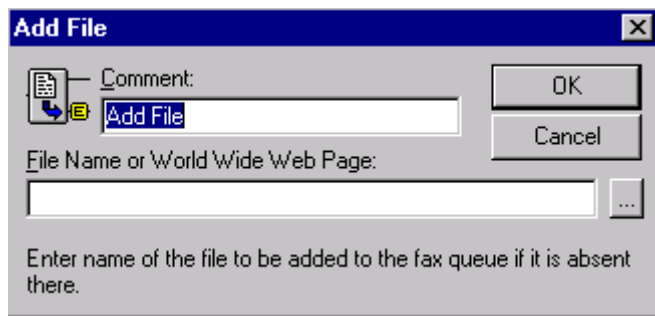


Next, the **Main Menu Play and Enter** block under the **Play and Enter** palette lets the caller indicate whether they want an index of selections faxed to them, or if they already know the number of the document they want to receive and wish to select a specific document.



Document Selection

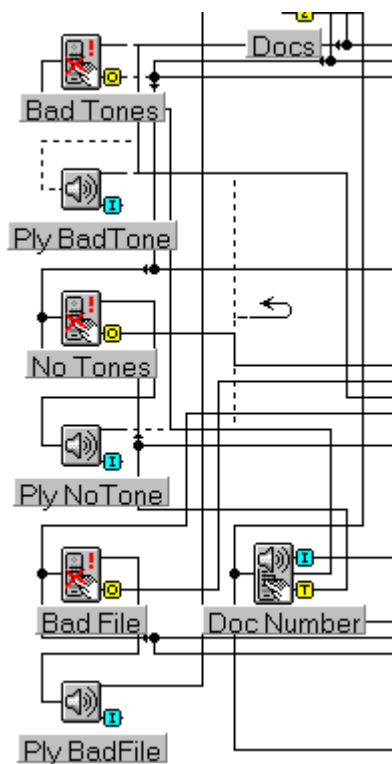
Each document the caller selects is added to the list of documents to be faxed back.



To limit the number of documents a caller can select, edit this application to include an increment counter, a conditional block to determine if the number of documents selected has reached the limit, and a **Play** block to tell the caller he or she has requested the limit.

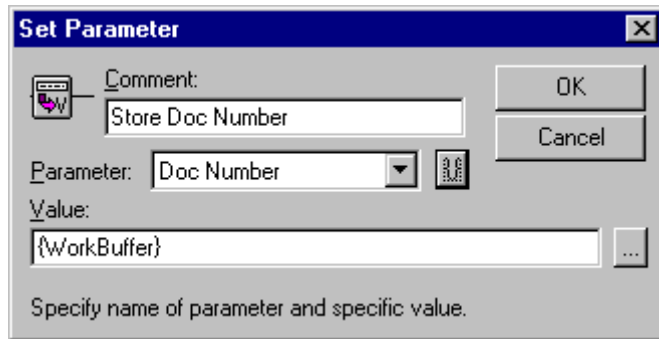
Error processing is provided by **Is Error** blocks under the **Internal Control** palette and associated **Play** blocks depending on the category of error. There are three error categories:

- Selection not found
- No response
- Invalid document selection

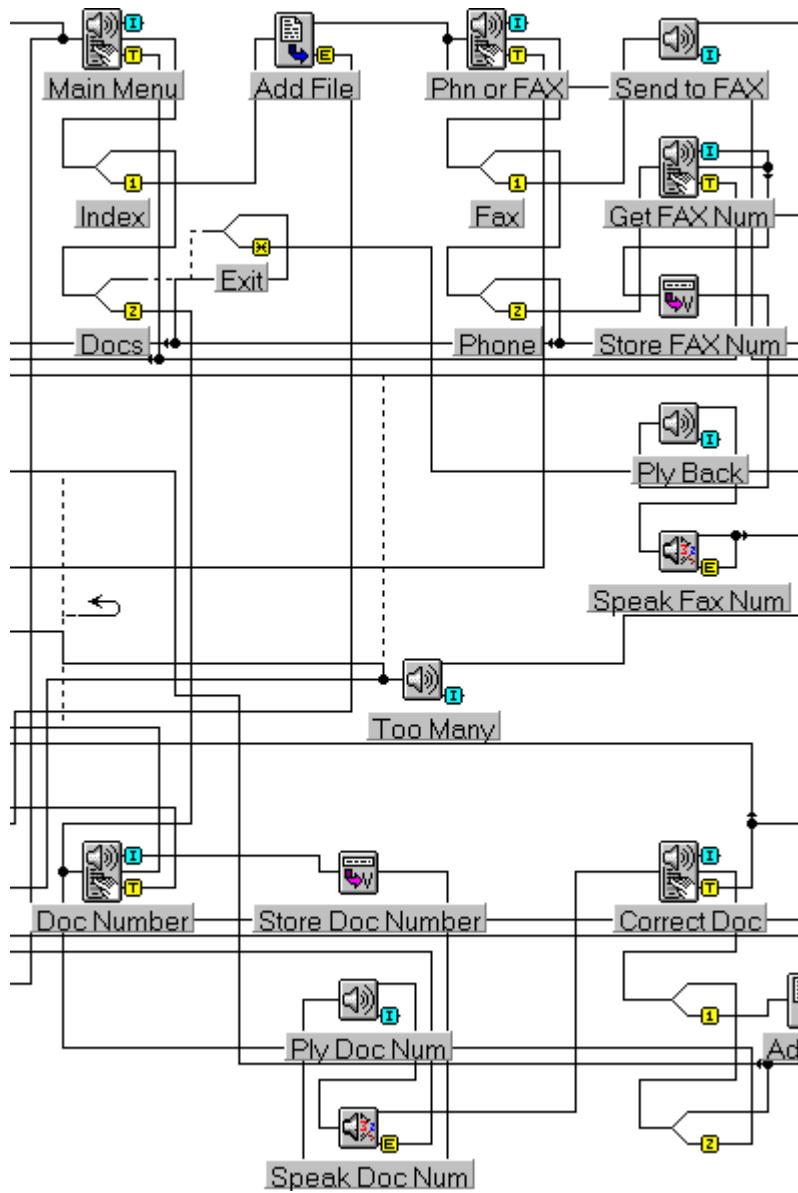


The document numbers are stored as variables using the **Set Parameter** block, under the

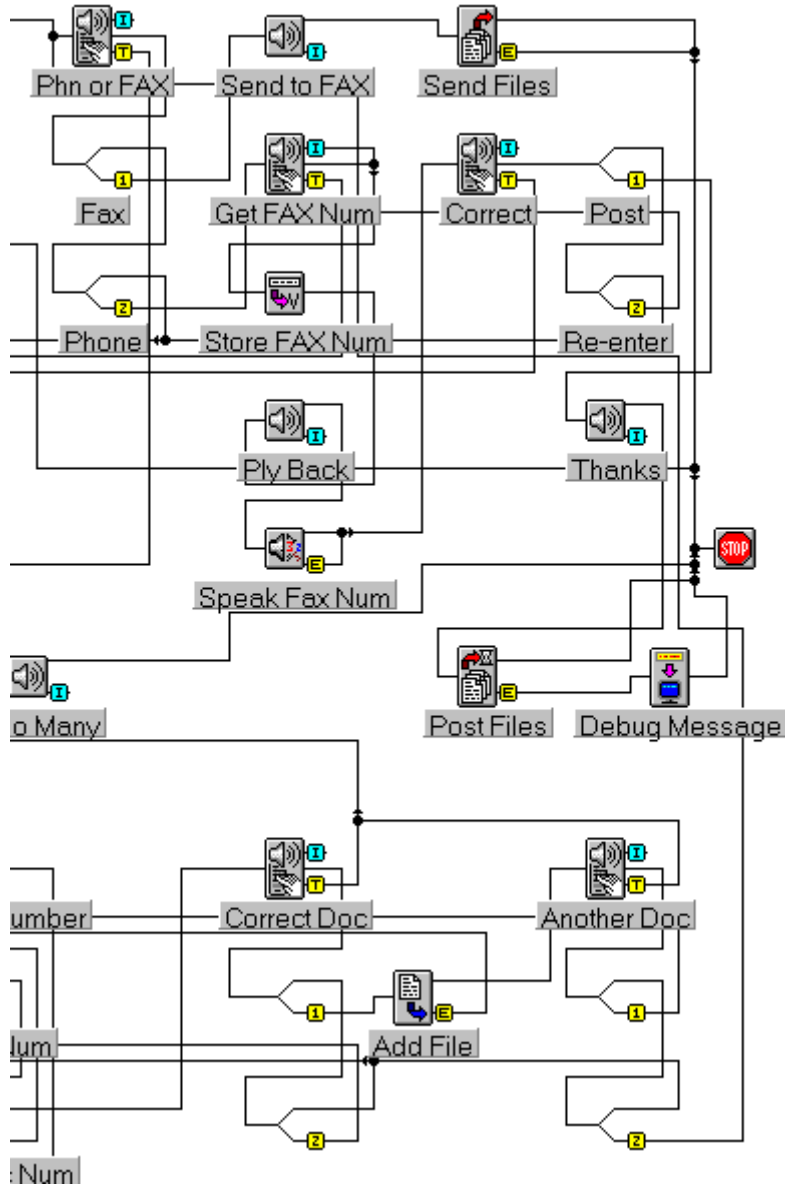
Calculation and Conversion palette.



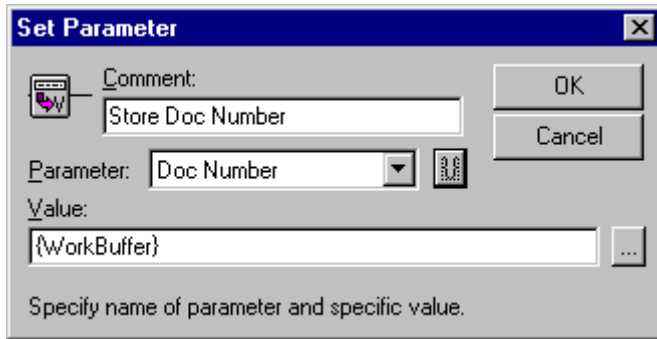
Then, **Play**, **Speak**, and **Play and Enter** blocks repeat document numbers to the caller for verification.



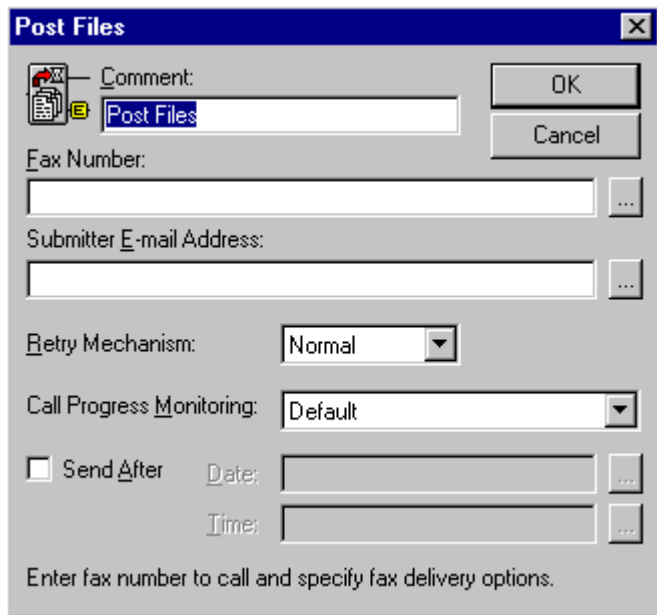
When the caller has finished selecting documents, a prompt asks whether the call is being placed from a **touch-tone phone** or from a **fax machine**.



If the caller is using a **touch-tone phone**, they are prompted for the fax number, which is stored as a variable.

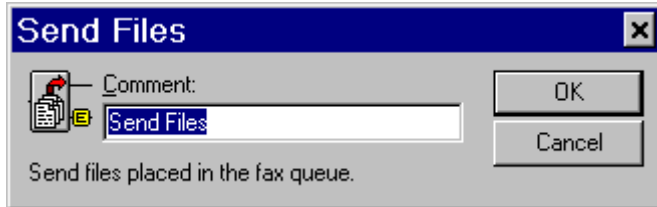


The fax number is then verified using **Play, Speak, and Play and Enter**. If the number is correct, a "Thank You" message plays, and the files are posted (to the Outbound Fax Queue) by the **Post Files** block. Otherwise, the caller may re-input the fax number. The application then ends.




A debug event goes to the Event Monitor if there is a problem with the posting.

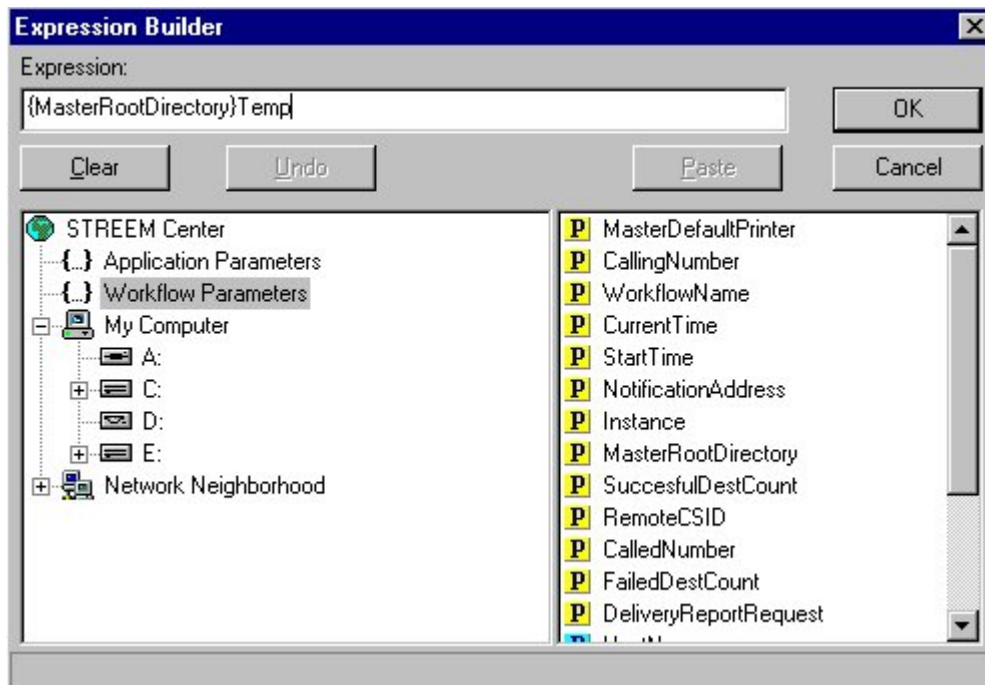
If the caller is calling from a **fax machine**, a message thanks the caller and directs them to press the Start button on their fax machine when the fax tone is heard. The **Send Files** block changes the voice call to a fax call and immediately initiates fax transmission. The application then ends.



Expression Builder 6

Some Stream Center dialogs prompt you to provide the name of a directory, file, or variable (information collectively referred to as an expression). The Expression Builder window simplifies the job of providing such information in the item property dialogs. The Expression Builder lets you create expressions by selecting from directory/file and variable lists.

Click the **ellipsis** button  located next to a text entry area, to invoke the **Expression Builder** window:



On the left side of the Expression Builder window is an Explorer-style tree that lists the available drives and directories on your system. Click any directory to see the subdirectories it contains, if any. Folders contained in a directory or subdirectory are listed on the right side of the window.

Also shown on the left (following the curly braces symbol) are the names of any available categories of parameters (for example, Destination Reference, Workflow Parameters, or Application Parameters). Clicking on these entries shows the related parameters on the right.

Parameters may have a yellow or blue **P** in front of their listing. Yellow indicates that the parameter is a system parameter—it is part of a basic set of parameters distributed with Stream Center. If you create a parameter yourself and add it to a list, it will have a blue “P” in front of it. You may create and delete blue parameters by selecting **Workflow>Parameters**. You cannot create or delete yellow parameters.

To build an expression:

1. Highlight a directory, folder, or variable on the right side of the **Expression Builder** window.
2. Click the **Paste** button. Your choice will appear in the **Expression text entry area**.
3. Click **Undo** if you decide not to make the highlighted selection. Click **Clear** to remove the

entire entry from the **Expression text entry area**.

You may also directly enter and edit text in the Expression text entry area.

When you close the dialog by clicking **OK**, the information in the Expression text entry area is transferred to the dialog from which the Expression Builder was invoked