



**Livelihood
Workflow Extensions
Module**

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Document Revision History

Date	By	Description
May 2006	D. Nalls	Workflow Variable Replacement Work Pkg
September 2006	D. Nalls	Workflow Monitor and Notifications

Supported Livelihood Versions: 9.5 sp 1

1 Introduction

The Livelihood Workflow Extensions Module is a compilation of commonly requested features for Livelihood Workflow. Upon module installation, the following new features will be available to Livelihood users:

- Extended Variable Replacement Values for Workflow Email Process Step
- Workflow Monitor and Notifications

2 Feature Descriptions

2.1 Workflow Variable Replacements Extension

The Workflow Email Variable Replacements Extension creates a new Workflow Work Package which extends the tag based variable replacements available with a Livelihood Workflow Email Process step.

The new replacement variable options include:

- Workflow Step Comments
- Group Member Email Addresses
- User Email Addresses for All Workflow Performers
- User Email Address for a Specified Workflow Step Performer
- User Display Name for All Workflow Performers
- User Display Name for Specified Workflow Step Performer
- Form User Attribute Email Address
- Workflow Attribute Email Address
- Custom Value from Module INI

A Livelihood workflow map designer will add the variable replacement tags in the same manner that the core Livelihood Variable Replacement tags are used. The tags will be similar to the core Livelihood Variable Replacement tags in their construction, using underscores to separate each of the five definition elements, plus opening and closing brackets:

- Opening Bracket
- “DataType_”
- Work Package Type: 1
- Work Package Subtype: 9
- Fourth Defining Element – String Indicating Replacement Type
- Fifth Defining Element – specific to the type of variable replacement
- Space + Forward Slash
- Closing Bracket

Example for workflow step comments: <DataType_1_9_WFlowComments_4 />

The new “Workflow Variable Replacements” Work Package is defined as Type=1 and Subtype=9; therefore all data tags will begin with “DataType_1_9_”. Each tag will have two additional elements (4rd and 5th) defined and separated with an underscore.

Description of Workflow Variable Replacements

Description	Element 4	Element 5	Example Tag
Workflow step comments	WFlowComments	The workflow step number. Note: Initiate step = 0	<DataType_1_9_WFlowComments_2 />
Email address string for all immediate group members	GroupEmailRecips	The name of the group	<DataType_1_9_GroupEmailRecips_My Group Name />
Email address string for all wflow performers or specified wflow step performer	WFlowPerformerEmails	0 = all workflow performers X = workflow step number for a single workflow step	<DataType_1_9_WFlowPerformerEmails_4 />
User display name for all wflow performers or specified wflow step performer. Group values are not supported.	WFlowPerformerNames	0 = all workflow performers X = workflow step number for a single workflow step	<DataType_1_9_WFlowPerformerNames_0 />
User Email Address string for users included in a Form User Attribute. If the attribute value is a group, then all immediate group members' email addresses will be concatenated in a comma separated string. Multi-Value Attributes are supported	FormAttrUserEmail	Form Attribute Display Name	<DataType_1_9_FormAttrUserEmail_My Manager />
User Email Address string for users included in a Workflow User Attribute. If the attribute value is a group, then all immediate group members' email addresses will be concatenated in a comma separated string. Multi-Value Attributes are supported	WFlowAttrUserEmail	Workflow Attribute Display Name	<DataType_1_9_WFlowAttrUserEmail_Document Approvers />
A custom value stored in the witwflowext.ini file. add the custom element under the [custom] section	CustomVal	A custom value stored in the witwflowext.ini file. Add parameter to the [custom] section in the .ini file	<DataType_1_9_CustomVal_some value />

IMPORTANT NOTE: Prior to implementation of the new variable replacement tags, the workflow designer must activate the WFlow Monitor and Variable Replacements package for each workflow that will use the new tags.

1. Select "General" from the Workflow Map Menu
2. Under the Packages Section, check the Wflow Monitor and Variable Replacements checkbox
3. Select the "Add to Workflow Definition" button
4. Select "Save" from the Map Menu

Package Type	Package Description
<input checked="" type="checkbox"/> Attachments	<input type="text"/>
<input checked="" type="checkbox"/> Attributes	<input type="text"/>
<input checked="" type="checkbox"/> Comments	<input type="text"/>
<input checked="" type="checkbox"/> Forms	<input type="text"/>
<input checked="" type="checkbox"/> WFlow Monitor and Variable Replacements	<input type="text"/>

2.2 Workflow Monitor and Notifications

The Workflow Monitor provides an interface on Livelihood Workflow Maps (Templates) to set-up monitoring and notifications based on:

- Workflow Due Date
- Workflow Attribute Date Fields
- Workflow Form Date Fields

A workflow designer may schedule email notifications to be sent x number of days before or after a specific workflow date. The workflow designer will specify:

- Number of Days
- Before/After
- Event – (includes a list of all Workflow Form and Attribute Date Fields)
- Email Recipients
- Email Subject
- Email Message Text

All standard Livelihood workflow variable tags may be used, as well as the Workflow Extensions variables listed in section 2.1 of this document.

2.2.1 Configuring the Workflow Map (Template)

Prior to configuration of the Workflow Monitor, the workflow designer must activate the WFlow Monitor and Variable Replacements package on the Workflow General Settings page.

5. Select “General” from the Workflow Map Menu
6. Under the Packages Section, check the WFlow Monitor and Variable Replacements checkbox

7. Select the “Add to Workflow Definition” button
8. Select “Save” from the Map Menu

After the WFlow Monitor and Variable Replacements Work Package has been added to the Workflow, a “Monitor” option will now appear on the Map menu, as well as a “Monitor” tab, accessible from the other work package pages.


Select the “Monitor” Tab or Map Menu option to configure monitor notifications for all workflows associated with the workflow template.

For each entry, complete the following information:

Column Name	Description
Number of Days	Text Entry field – should be an integer for number of days
Before/After	Drop-Down – select before/after
Event	Drop-Down listing of Workflow Dates, as well as all Workflow Attribute and Form Attribute Dates
Email Recipients	Text Entry – comma separated list of email recipients. Selection may include any of the Workflow Extension variable replacement tags

	listed in section 2.1 of this document
Email Subject	Text Entry field – email subject may include any Livelink workflow variable replacement tags (such as <WorkTitle /> or Workflow Extension variable replacement tags listed in section 2.1 of this document
Email Message	Text Entry field – email message may include any Livelink workflow variable replacement tags (such as <WorkTitle /> or Workflow Extension variable replacement tags listed in section 2.1 of this document (i.e. Workflow Comments from specified step: <DataType 1 9 WFlowComments 2 />)

After each entry, select the “Add to Workflow Definition” button to submit the entry and provide the next set of data entry fields.

If you wish to remove an entry, select the “Delete a Row”  button in the right column of the desired row. You will be prompted for confirmation, prior to the deletion of the row data.

At the completion of all Monitor configuration data, select the “Save” option from the “Map” menu.

All workflows initiated from this template will now be monitored; this includes previously initiated workflows, as well as future workflows.

2.2.2 “Workflow Monitor” Change Agent

Prior to workflow notifications processing, the “Workflow Monitor” Change Agent must be scheduled to process periodically. The Change Agent should be scheduled as part of the module installation procedures.

Please note – the database queries for Workflow Monitor Notification are based on Month/Day/Year calculations.

Example Calculation:

If a workflow monitor notification is configured as:

2 days before a workflow due date,

The Change Agent Database Query will determine if:

workflow due date – 2 days = current date

If the query returns true, then the configured notification will be sent.

Because the queries are based on month/day/year, each time the change agent processes on a specified date, the notifications will be sent. Therefore, it is expected that this

change agent will be set to run only once per day, to avoid multiple notifications for a specific workflow.

Please note: there is no consideration for weekends or holidays in the date calculation; therefore, it is advised that the change agent be scheduled to process every day of the week.

An ideal change agent configuration is one process time every day of the week, during non-peak hours:

Use this page to configure the *Workflow Monitor Agent* Change Agent's run-times. The **Workflow Monitor** Change Agent monitors Livelihood workflows and sends notifications, as configured in the workflow map.

Enable Change Agent

Enable Change Agent:

Schedule Agent (based on server's day & time)

Name: **Workflow Monitor Agent**

On these days: Sun Mon Tues Wed Thurs Fri Sat

At these hours: A.M. 12 01 02 03 04 05 06 07 08 09 10 11

P.M. 12 01 02 03 04 05 06 07 08 09 10 11

At these times: 00 05 10 15 20 25 30 35 40 45 50 55

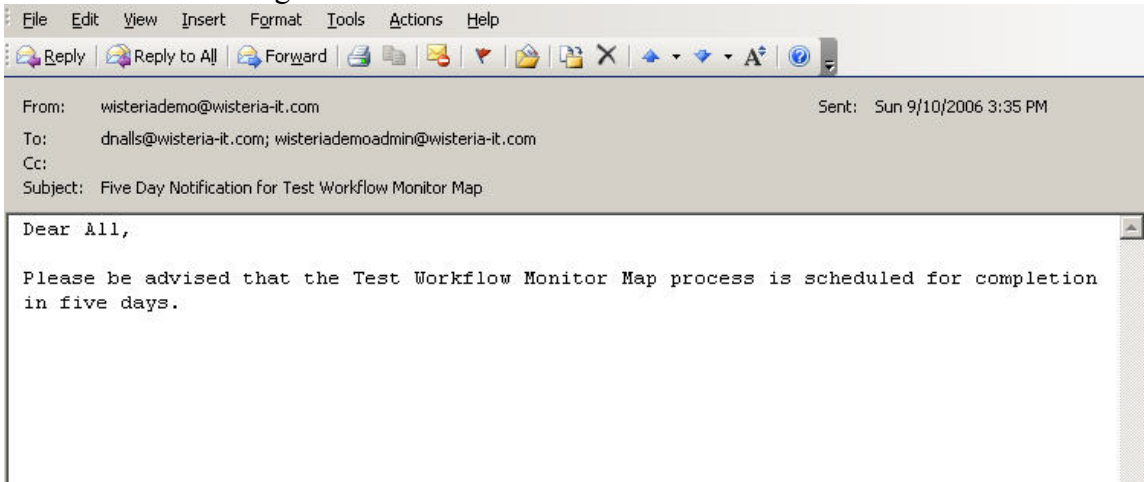
Submit Reset Cancel

The Change Agent process will monitor in-progress workflows and send email notifications according to each specification configured in the workflow maps.

This Configuration:

Number Days	Before/After	Event	Email Recipients (comma separated)	Email Subject	Email Message
5	before	WFlow: Due Date	<DataType_1_9_WFlowPerformerEmails_0 />	Five Day Notification for <WorkflowTitle />	Dear All, Please be advised that the <WorkflowTitle /> process is scheduled for completion in five days.

Results in this Message:



3 Module Implementation

3.1 Install the Livelink Workflow Extensions Module

The Livelink Workflow Extensions Module is supported for Livelink 9.2.1 and Livelink 9.5.1. The module is installed in the same manner as any other Livelink module:

1. Stop the Livelink Service
2. Copy the witwflowext_9_x_x module into the <Livelink Home>/staging directory
3. Restart the Livelink Service
4. Log into Livelink as the Admin user
5. Navigate to the Livelink Administration page (?func=admin.index)
6. Provide the Livelink Administration password, if prompted
7. Select “Install Modules” under the “Module Administration” section
8. Under the “Installable Modules” section check the box next to “Wisteria IT Workflow Extensions” module
9. Select the “Install” button
10. When prompted, Stop and Restart the Livelink Service
11. Select the “Continue” hyperlink
12. Verify that the “Wisteria IT Workflow Extension” module is now listed in the “Installed Modules” section
13. Return to Livelink Administration page and Schedule the Monitor Change Agent
 - a. Under the “Extended Workflow Administration” section, select the “Schedule the Workflow Monitor Change Agent Process Times” hyperlink
 - b. Check the “Enable Change Agent” checkbox
 - c. Select appropriate day/hour/minute checkboxes – Please note: this agent is meant to run once per day. Each process time will send scheduled notifications for that day. For a detailed description of the change agent, see [Section 2.2.2](#) of this document.
 - d. Select the “Submit” button
14. Using the <Livelink Home>/module/witwflowext_x_x_x/schema/create monitor table file, use the appropriate scripts to create the new table in the Livelink schema

3.2 Un-Install the Livelink Workflow Extensions Module

The Livelink Workflow Extensions module is un-installed in the same manner as any other Livelink module:

1. Log into Livelink as the Admin user
2. Navigate to the Livelink Administration page (?func=admin.index)
3. Provide the Livelink Administration password, if prompted
4. Select “Uninstall Modules” under the “Module Administration” section
5. Under the “Uninstallable Modules” section select the “Uninstall” button next to “Wisteria IT Workflow Extensions” module
6. When prompted, Stop and Restart the Livelink Service

7. Select the “Continue” hyperlink
8. Verify that the “Wisteria IT Workflow Extensions” module is no longer listed in the “Uninstall Modules” section
9. The module should now be located in the <Livelink Home>/staging directory on the Livelink server
10. You may also delete the wit_wflow_monitor table from the database schema, if so desired

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