

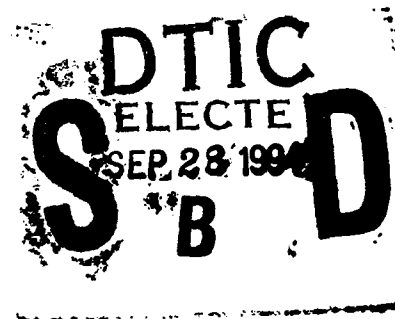
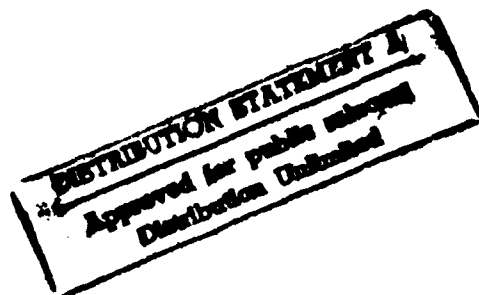
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TASK: UU03
CDRL: 05156
March 1993

Reuse Library Framework PCTE Binary Release Version 4.1 Version Description Document

Informal Technical Data



STARS-UC-05156/021/00
March 1993

84 9 27 009

SSP 94-30826

TASK: UU03
CDRL: 05156
March 1993

VERSION DESCRIPTION DOCUMENT
For
SOFTWARE TECHNOLOGY FOR ADAPTABLE, RELIABLE SYSTEMS
(STARS)

*Reuse Library Framework
PCTE Binary Release, Version 4.1
SunOS Implementation*

STARS-UC-05156/021/00
March 1993

Data Type: A005, Informal Technical Data

CONTRACT NO. F19628-88-D-0031
Delivery Order 0008

Prepared for:
Electronic Systems Center
Air Force Systems Command, USAF
Hanscom AFB, MA 01731-5000

Prepared by:
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Reston, VA 22091

Accession For	
NTIS GRA&I	☒
DTIC TAB	☐
Unannounced	☐
Justification	
By	
Distribution/	
Availability Codes	
Dist	Avail and/or Special
A-11	

DTIC QUALITY INSPECTED 3

Distribution Statement "A"
per DoD Directive 5230.24
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Data ID: STARS-UC-05156/021/00

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TASK: UU03
CDRL: 05156
March 1993

VERSION DESCRIPTION DOCUMENT
Reuse Library Framework
PCTE Binary Release, Version 4.1
SunOS Implementation

Approvals:

Task Manager *Richard E. Creps*

Date

(Signatures on File)

TASK: UU03
CDRL: 05156
March 1993

VERSION DESCRIPTION DOCUMENT

Reuse Library Framework

PCTE Binary Release, Version 4.1

SunOS Implementation

Change Record:

<i>Data ID</i>	<i>Description of Change</i>	<i>Date</i>	<i>Approval</i>
STARS-UC-05156/021/00	Original Issue—RLF v.4.1	March 1993	<i>on file</i>

REPORT DOCUMENTATION PAGE			Form Approved OMB No. 0704-0188	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503				
1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE		3. REPORT TYPE AND DATES COVERED Informal Technical Report
4. TITLE AND SUBTITLE Reuse Library Framework PCTE Binary Release VDD			5. FUNDING NUMBERS	
6. AUTHOR(S) Paramax			F19628-88-D-0013	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Paramax Systems Corporation 12010 Sunrise Valley Drive Reston, VA 22091			8. PERFORMING ORGANIZATION REPORT NUMBER STARS-UC-05156/021/00	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) Department of the Air Force Headquarters ESC Hanscom, AFB, MA 01731-5000			10. SPONSORING/MONITORING AGENCY REPORT NUMBER 05156	
11. SUPPLEMENTARY NOTES				
12a. DISTRIBUTION/AVAILABILITY STATEMENT			12b. DISTRIBUTION CODE	
13. ABSTRACT (Maximum 200 words) The Reuse Library Framework (RLF) is an Ada system designed and implemented to support the production and installation of domain-specific software library systems. The RLF is based on two fundamental subsystems: AdaKNET (Ada Knowledge NETWORK) and AdaTAU (TAU is an acronym for Think Ask Update) which are knowledge representation and inferencing systems derived from systems previously developed by Paramax in Prolog. These subsystems are supported by an integrating framework to allow them to be used in combination with each other. AdaKNET and AdaTAU are also equipped with interface specification languages (Library Model Definition Language (LMDL) and Rule Base Definition Language (RBDL) respectively) that are used to initialize domain models that describe the library (or application) domain. In addition to the support of library systems, the RLF was used to develop a prototype Ada unit test assistant during the STARS Foundations period and has been applied to the representation of software and reuse process models which are themselves machine processable.				
14. SUBJECT TERMS			15. NUMBER OF PAGES 47	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT SAR	

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1 SCOPE

1.1 Identification

Version Description Document,
Reusability Library Framework (RLF),
Binary Release Version 4.1,
SunOS Implementation

1.2 System Overview

The Reuse Library Framework (RLF) is an Ada system designed and implemented to support the production and installation of domain-specific software library systems. The RLF is based on two fundamental subsystems: AdaKNET (Ada Knowledge NETwork) and AdaTAU (TAU is an acronym for Think Ask Update) which are knowledge representation and inferencing systems derived from systems previously developed by Paramax in Prolog. These subsystems are supported by an integrating framework to allow them to be used in combination with each other. AdaKNET and AdaTAU are also equipped with interface specification languages (Library Model Definition Language (LMDL) and Rule Base Definition Language (RBDL) respectively) that are used to initialize domain models that describe the library (or application) domain. In addition to the support of library systems, the RLF was used to develop a prototype Ada unit test assistant during the STARS Foundations period and has been applied to the representation of software and reuse process models which are themselves machine processable.

2 RELATED SOFTWARE

In order to run the RLF *Graphical_Browser*, it is necessary to have installed the X Window System, Release 4 (X11R4).

3 VERSION DESCRIPTION

3.1 Inventory of Contents

This release includes a version of the RLF hosted on the PCTE operating system. A README file is provided to inform the user of useful places to look for information on RLF documentation and registration. Executable code for this version resides in the `pcte/bin` directory. The PCTE version of the RLF does not contain any pre-built RFL libraries, as the UNIX version does, because the libraries must be created within the PCTE environment. Shell scripts are provided for this purpose. This version also contains `models` and `docs` directories. Located in the base directory for this release are the installation scripts. The contents of these subdirectories are described in the following sections.

The distribution is organized as follows:

```
docs
docs/manuals
docs/tutorials
bin
bin/bitmaps
man
man/cat1
man/man1
models
models/ada_x
models/ada_x/Text
models/ada_x/Text/Widgets
models/ada_x/Text/Xlib
models/ada_x/Text/Xmu
models/ada_x/Text/Xt
models/animals
models/animals/Text
models/asw
models/asw/Text
models/common_data_model
models/common_data_model/Text
models/demo_actions
models/demo_actions/Text
models/demo_actions/Text/sounds
models/demo_actions/Text/xbm
models/window_manager
models/window_manager/Text
models/software_technology
models/software_technology/Text
models/sort_and_search
models/sort_and_search/Text
```

A complete listing of the contents of this distribution is included in Appendix A.

3.1.1 Directory: docs

The two subdirectories of docs contain the RLF manuals and tutorials currently delivered in this RLF release.

3.1.1.1 Subdirectory: manuals

3.1.1.1.1 RLF Administrator's Manual. The *RLF Administrator's Manual* provides the information necessary for an RLF reuse library administrator to install, modify, and maintain a reuse library hosted on RLF.

3.1.1.1.2 RLF Installation Guide. The *RLF Installation Guide* informs the user how to install, build and start up the STARS RLF and its user interface applications, namely the *RLF Graphical Browser* and the *RLF Library Manager*.

3.1.1.1.3 RLF Modeler's Manual. The *RLF Modeler's Manual* provides the information necessary for an RLF reuse library domain modeler to model, encode, and build an RLF reuse library specification and the library itself. It also defines how to model, encode, and install the RLF library advice modules called "inferencers."

3.1.1.1.4 RLF User's Manual. The *RLF User's Manual* describes the use and basic customization of the *Graphical Browser* application. The reader is not expected to be a programmer, but familiarity with the UNIX C shell, and basic X Window System operations using the Motif Window Manager (*mwm*) or some other window manager is assumed. Some explanation of RLF concepts is provided, but only at an elementary level.

3.1.1.2 Subdirectory: tutorials This directory contains three PostScript file representations of the contents of three RLF training packages that will be used as hand-out material in support of the delivery of RLF training sessions. While the documents can be read on their own, and are formatted in an article-style format, they are oriented more for a presentation of the material by a speaker using transparencies. The tutorials are also designed to be supplemented by in-class demonstrations of RLF software and the conducting and monitoring of both in-class and out-of-class student exercises using the software.

3.1.1.2.1 RLF User Tutorial. The *RLF User Tutorial* presents a survey of the usage of the *RLF Graphical Browser* application which will enable new RLF users to quickly learn the user interface and the various RLF features which it presents.

3.1.1.2.2 RLF Administrator Tutorial. The *RLF Administrator Tutorial* provides an introduction to the installation and maintenance of RLF library systems. This tutorial assumes that the user is familiar with the basic RLF interface (for example, as presented in the *RLF User Tutorial*). A survey of the *Library Manager* application is also presented in the tutorial.

3.1.1.2.3 RLF Modeler Tutorial. The *RLF Modeler Tutorial* provides a thorough presentation of RLF modeling capabilities so that attendees can begin the construction of RLF models for application domains of interest to them. Familiarity with the material covered in the *RLF User Tutorial* is assumed. Modeling techniques are discussed and the use of the RLF model specification languages is taught through the use of a detailed example.

3.1.2 Directory: models

Sample libraries and their build scripts are found in the `models` directory, which contains the `ada_x`, `animals`, `asw`, `common_data_model`, `demo_actions`, `window_manager`, `software_technology` and `sort_and_search` subdirectories. The contents of these subdirectories are described in the following sections. This directory also contains the file `library_model_template.lmdl`, which contains an example LMDL specification for a library action subtree.

3.1.2.1 Subdirectory: models/ada_x ...contains the LMDL and RBDL specifications and associated text files for a sample RLF library describing the STARS Ada/Xt system. The specification files must be processed by the LMDL and RBDL translators to build the `ada_x` knowledge base.

3.1.2.2 Subdirectory: models/animals ...contains the LMDL specification and associated text files for a sample knowledge base describing a simple animals taxonomy. The specification files must be processed by the LMDL translator to build the animals knowledge base.

3.1.2.3 Subdirectory: models/asw ...contains the LMDL specification and associated text files for a sample RLF library addressing the anti-submarine warfare (ASW) domain. The specification files must be processed by the LMDL translator to build the `asw` library.

3.1.2.4 Subdirectory: models/common_data_model ...contains the LMDL specification and associated text files for a sample RLF library illustrating how the Common Data Model defined in the STARS ALOAF document can be expressed using RLF. The specification files must be processed by the LMDL translator to build the `Common Data Model` library.

3.1.2.5 Subdirectory: models/demo_actions ...contains the LMDL specification and associated text files for a sample RLF library addressing the modeling of LMDL actions. The sound actions contained in this library only work on a Sun workstation that has a sound board. The specification files must be processed by the LMDL translator to build the `Demo Actions` library.

3.1.2.6 Subdirectory: models/window_manager ...contains the LMDL and RBDL specifications and associated text files for a sample RLF library addressing the SEI's FODA example on move operations in the window manager domain. The specification files must be processed by the LMDL and RBDL translators to build the `Move Domain` library.

3.1.2.7 Subdirectory: models/software_technology ...contains the LMDL specification and associated text files for a sample RLF library providing both a functional- and product-oriented view into the domain and defining numerous attributes for describing software engineering components. The specification files must be processed by the LMDL translator to build the **Software Technology** library.

3.1.2.8 Subdirectory: models/sort_and_search ...contains the LMDL and RBDL specifications and associated text files for a sample RLF library describing a sort and search algorithms domain. The specification files must be processed by the LMDL and RBDL translators to build the **Sort and Search** library.

3.1.3 Directory: pcte/bin

The **pcte/bin** directory contains the binaries and support files used to execute the PCTE Sun-4 version of the RLF. This directory contains the application resource file **RLF_Browser**, the **Graphical_Browser** start-up script **RLF_GB**, a sample RLF start-up file **.rlfrc**, and the associated bitmaps for the **RLF_Browser** file in the subdirectory **bitmaps**. These items are used with the **Graphical_Browser** application, with the **.rlfrc** also being used for the other RLF applications.

Included in the RLF 4.1 release is a **Sndl_to_Lmdl** translator for the conversion of the old SNDL syntax to the LMDL syntax for RLF library models.

This directory also contains public-domain executables that are used by the sample models included with this release, which are not part of the standard SunOS or X releases. The executables included are **less** and **xloadimage**.

The start-up script **RLF_GB** and the sample start-up file **.rlfrc** are included in this document in Appendix B.

3.1.3.1 Subdirectory: bin/bitmaps ...contains the bitmaps used in the execution of the **Graphical_Browser**.

Δ 3.2 Changes Installed for Version 4.1

The largest changes in RLF 4.1 from RLF 4.0 is the support for the operation of RLF on top of PCTE in addition to UNIX. These changes necessitate the PCTE Binary Release. Other changes include documentation updates (including UNIX-style *man* pages) and **Library_Manager** application refinement.

3.2.1 *Library_Manager* Application Refinement

The *Library_Manager* application introduced in RLF 4.0 has been refined in version 4.1 to replace some dynamic menus with scrollable list widgets and to desensitize button choices which would lead to the pop-up of an empty menu. A limit on the number of libraries the *Library_Manager* could process was also removed.

3.2.2 RLF Graphical Browser

Significant changes were made to the PCTE version of the *Graphical_Browser*.

3.2.3 RLF Sample Libraries

The old RLF model *move_domain* has been renamed to *window_managers*.

3.2.4 Installation Script Insertion

An installation script is now provided for the binary release of the RLF. This script installs the *RLF_Browser* resource file and its associated bitmaps in an appropriate directory.

The following files were added or changed to support automated installation:

Install_RLF_pcte_bin

Install_RLF.csh

Install_RLF.var

3.3 Adaptation Data

3.3.1 Operating Environment

Sun workstation with a minimum of 8 MB of main memory

SunOS Version 4.1 or later

X Window System, Version 11, Release 4

3.3.2 Development Environment

Sun-4 workstations with a minimum of 8 MB of main memory

SunOS Version 4.1 or later

SERC Ada/Motif, Version 1.0 for Sun Ada version 1.1

Reusable Graphical Browser, Version 1.0 (*Graphical_Browser* only)

X Window System, Version 11, Release 4

OSF/Motif version 1.1

Sun Ada Version 1.1

3.4 Interface Compatibility

3.4.1 Previously Built RLF Libraries

The 4.1 version of the RLF is compatible with version 4.0 RLF libraries, but is incompatible with pre-4.0 libraries. Post-4.0 versions of the RLF cannot accept RLF libraries built with pre-4.0 versions of RLF. LMDL now supercedes SNDL as the library modeling language.

3.4.2 Libraries Built with Different Compilers

Data representations are different between Ada compilers. As a result, RLF libraries created by old versions of the RLF built with other compilers are not compatible with libraries created by a version of the RLF built with the Sun Ada compiler.

3.5 Installation and Usage Instructions

All the executables for the RLF are located in the `pcte/bin` directory. The file `Install_RLF_pcte_bin` is an executable UNIX C shell script, which can be used to install the PCTE binary version of the RLF. The complete installation and verification procedures are located in the *RLF Installation Guide*.

NOTE: Appendix C contains a listing of the installation scripts provided in this distribution.

3.5.1 Invoking RLF Applications

Once the RLF executables have been installed, any of the executables can be run by invoking them by name. Information about invoking the RLF `Graphical_Browser` application is located in the *RLF User's Manual*. Additional information about RLF applications and their uses may be found in the *RLF Modeler's Manual* and the *RLF Administrator's Manual*.

3.6 Potential Problems

3.6.1 Graphical_Browser Known Problems

During the execution of the `Graphical_Browser` a few infrequent errors may occur. The errors listed here are attributed to bugs in Motif version 1.1. It is expected that future versions of Motif will eliminate these errors.

The following is the list of known errors and thier descriptions:

1. **Warning: XtRemoveGrab asked to remove a widget not on the list** — This text message, which appears in the originating window, often occurs when a window in the `Graphical_Browser` is exited or canceled.
2. **Menu bar menu relocating to upper left hand corner of the screen** — This event can happen when the Node History menu option, which is in the Navigate View menu bar option, is selected. As the pointer passes over the menu entry the cascading menu may be placed in the upper left hand corner of the screen.
3. **Node menu creation error** — This display alert box randomly appears when a node is selected. If the node is selected again the error usually does not occur. Reselect the node and the correct menu should appear.

3.7 Future Enhancements

For the basic RLF capabilities, future enhancements may include:

1. Additional built-in Ada procedure actions.
2. Performance enhancements for the LMDL translator.
3. Better integration between library models and inferencer advice modules.

In the area of the `Library_Manager`, future enhancements may include:

1. The ability to manipulate several directories containing library model representations.
2. LMDL features to dump and display LMDL for library model entities.
3. Finer control of attribute and inferencer file representations and library representation permissions.
4. Fully implemented import and export capability for assets.
5. Extensive model editing capabilities.

In the area of the Graphical Browser, future enhancements may include:

1. Adding more sophisticated query capabilities to the simple pattern matcher of the Search function.
2. Adding a control panel to modify start-up variables, such as the aggregation view depth, after the application has started.
3. Improved view management, involving such capabilities as dynamic graph relayout, zooming, and more sophisticated filtering flexibility.

4 USER FEEDBACK

This version of RLF is considered an "alpha" release. One of the primary purposes of the release is to encourage experimentation with the software and to solicit feedback from the Ada user community to assist us in improving the product and advancing software reuse. Thus, we would greatly appreciate your comments, suggestions, and criticisms. Although we do not guarantee the applicability of the RLF to particular application needs at this time, we are interested in hearing about successes as well as failures.

We have included three forms in this release which we hope you will use to provide us with needed feedback:

- A registration form (in file Registration_Form) that we would like you to fill out and return to us so that we can keep track of our user base and can notify you of product upgrades and other important product news.
- A Program Problem Report (in file Problem_Report) that you should use to identify any specific problems you encounter in installing and using the software.
- A New Feature Request (in file Feature_Request) that you should use to describe specific enhancements that you believe should be incorporated into the product.

We have established three electronic mailing lists to facilitate RLF usage and feedback:

- **r1f@stars.rosslyn.paramax.com**
This list provides a public forum for discussing RLF issues. If you ask to be included in this list, you will receive all messages sent to the list and may respond accordingly.
- **r1f-request@stars.rosslyn.paramax.com**
You should send your completed registration form to this address, as well as requests to be added to or deleted from the r1f list (NOTE: Do NOT send add or delete requests to the r1f list itself).

- **rlf-bugs@stars.rosslyn.paramax.com**

You should send completed Program Problem Reports and New Feature Requests to this address.

If you do not have electronic mail access or wish to send us printed information, please send mail to:

RLF
Paramax STARS Center
12010 Sunrise Valley Drive
Reston, VA 22091

5 NOTES

Both AdaTAU and AdaKNET were designed for independent use by applications requiring knowledge representation and inferencing capabilities. The specification languages provided for these subsystems foster their transfer to diverse application areas and their programmatic interfaces enable their integration into general Ada applications. Additional applications will help determine system shortcomings and lead to their correction.

A Appendix: Inventory of Contents

NOTE: "*" identifies executables; "/" identifies directories

```
.:
Install_RLF_pcte_bin*
pcte/
```

```
./pcte:
bin/
```

```
./pcte/bin:
Graphical_Browser*
Install_RLF.csh*
Install_RLF.var
Library_Manager*
Lmdl*
RLF_Browser
Rbdl*
ascii_file.tool*
bitmaps/
disp_attr.tool*
dl_ascii_file.tool*
pcte.profile
pcte_install*
```

```
./pcte/bin/bitmaps:
alert.xbm
alert_notice.xbm
bigquestion.xbm
box_AI_m.xbm
box_AI_rev_m.xbm
box_AI_rev_s.xbm
box_AI_rev_xs.xbm
box_AI_s.xbm
box_AI_xs.xbm
box_A_m.xbm
box_A_rev_m.xbm
box_A_rev_s.xbm
box_A_rev_xs.xbm
box_A_s.xbm
box_A_xs.xbm
box_I_m.xbm
box_I_rev_m.xbm
box_I_rev_s.xbm
box_I_rev_xs.xbm
box_I_s.xbm
box_I_xs.xbm
box_l.xbm
box_m.xbm
box_rev_m.xbm
box_s.xbm
box_sm.xbm
box_xl.xbm
```

box_xs.xbm
browser.xbm
checkmark.xbm
contents.xbm
cube_AI_m.xbm
cube_AI_rev_m.xbm
cube_AI_rev_s.xbm
cube_AI_rev_xs.xbm
cube_AI_s.xbm
cube_AI_xs.xbm
cube_A_m.xbm
cube_A_rev_m.xbm
cube_A_rev_s.xbm
cube_A_rev_xs.xbm
cube_A_s.xbm
cube_A_xs.xbm
cube_I_m.xbm
cube_I_rev_m.xbm
cube_I_rev_s.xbm
cube_I_rev_xs.xbm
cube_I_s.xbm
cube_I_xs.xbm
cube_l.xbm
cube_m.xbm
cube_rev_l.xbm
cube_rev_m.xbm
cube_s.xbm
cube_sm.xbm
cube_xl.xbm
cube_xs.xbm
dialog.xbm
init_browser.xbm
null_black.xbm
ok_button.xbm
ok_button_16x16.xbm
ok_button_32x32.xbm
ok_button_45x35.xbm
ok_button_46x32.xbm
point.xbm
point_rev.xbm
qmark.xbm
quit_button.xbm
quit_button_54x35.xbm
quit_button_75x32.xbm
small_circle.xbm
small_circle_5x5.xbm
small_circle_7x7.xbm
small_circle_rev_5x5.xbm
small_solid_square.xbm
small_solid_square_5x5.xbm
small_solid_square_rev.xbm
small_solid_square_rev_5x5.xbm
small_thick_circle.xbm
square_24x23.xbm

B Appendix: RLF Start-up Files

B.1 Sample RLF .rlfrc Start-up File

B.1.1 File: .rlfrc

```
1  --|
2  --| Sample startup file for the Reuse Library Framework version 4.1
3  --|
4
5  --|
6  --| Library directory or name specifications
7  --|
8  --library directory : /path/Libraries
9  --library : "Sort and Search Algorithms"
10
11 --|
12 --| Parameters for the RLF Graphical Browser
13 --|
14 topology : off
15 cardinality : off
16 layout offset : x : 20
17 layout offset : y : 5
18 history length : 50
19 view type : specialization
20 view depth : relationship : 2
21
22 --|
23 --| AdaTau inferencing settings
24 --|
25 advice : explanations : all
26 advice : automatic move : false
27
28 --|
29 --| Bitmaps for nodes
30 --|
31 --node bitmap : category : /path/box_m.xbm
32 --node bitmap : category : inferencer : /path/box_I_m.xbm
33 --node bitmap : category : actions : /path/box_A_m.xbm
34 --node bitmap : category : inferencer actions : /path/box_AI_m.xbm
35 --node bitmap : object : /path/cube_m.xbm
36 --node bitmap : object : inferencer : /path/cube_I_m.xbm
37 --node bitmap : object : actions : /path/cube_A_m.xbm
38 --node bitmap : object : inferencer actions : /path/cube_AI_m.xbm
39
40 --|
41 --| Specification translator settings
42 --|
43 translator: Lmdl: quiet: no
44 translator: Rbdl: quiet: no
```

B.2 RLF Graphical Browser Start-up Script

B.2.1 Script: RLF_GB

```

1  #!/bin/csh -f
2  #
3  #-----
4  # RLF_GB - Startup script for the RLF Graphical Browser, v.4.1
5  #
6  # 1.) Check that an X environment is present and running.
7  #
8  # 2.) Ensure the environment variables (RLF_LIBRARIES, DISPLAY, and possibly
9  #     XAPPLRESDIR) are properly set.
10 #
11 # 3.) Invoke the Graphical Browser with all command line arguments specified
12 #     by the user.
13 #
14 # If either an environment variable is not set or incorrectly set or X is not
15 #     running, then abort the script and notify the user of the problem.
16 #
17 #-----
18
19 echo ""
20 echo " ====="
21 echo "   RLF v.4.1 Graphical Browser Startup Script "
22 echo " ====="
23 echo ""
24
25 #-----
26 # Determine if the DISPLAY environment variable is set;
27 # if it is set, then proceed;
28 # if it is not set, attempt to set it to a meaningful value.
29 #-----
30 if ( ! $?DISPLAY ) then
31     set host_name = 'hostname'
32     setenv DISPLAY ${host_name}:0
33 endif
34
35
36 echo ""
37 echo " Ensure the DISPLAY environment variable is"
38 echo " set correctly; the correct format is <host_name>:0,"
39 echo " where the host_name indicates what CPU your X server "
40 echo " is running on."
41 echo ""
42 echo "Currently, DISPLAY = "
43 echo " $DISPLAY"
44 echo ""
45 set local_host = `echo $DISPLAY | sed 's/.*$//`
46 echo "This means the graphical output will be sent to host: "
47 echo " $local_host"
48 echo ""
49
50 #-----

```

```

51 # Query the X resource database to determine whether $DISPLAY is valid.
52 #-----
53 xrdp -query >& /dev/null
54
55 #-----
56 # The DISPLAY environment variable was set incorrectly
57 # if the status is not 0. Notify the user.
58 #-----
59 if ( ! $status == 0 ) then
60     unsetenv DISPLAY
61     echo ""
62     echo "    There's a problem with your X server."
63     echo "    There's probably no X server running on host 'hostname'."
64     echo "    Determine where your X server is running,"
65     echo "    then issue the following command: "
66     echo ""
67     echo "        setenv DISPLAY <hostname>:0 "
68     echo ""
69     echo "    where <hostname> is the host where your "
70     echo "    X server is running."
71     echo ""
72 endif
73
74 #-----
75 # If RLF_LIBRARIES environment variable not already set, or
76 # incorrectly set exit the script and notify the user.
77 #-----
78 if ( ! $?RLF_LIBRARIES ) then
79
80     #
81     # Check the command line options to see if the user
82     # specified a library
83     #
84     if ( $#argv >= 2 ) then
85
86         @ index = 1
87
88         while ( $#argv >= $index + 1 )
89
90             @ index2 = $index + 1
91
92             if ( $argv[$index] == "-I" ) then
93                 if ( ( -d $argv[$index2]/Text ) && \
94                     ( -d $argv[$index2]/Taustuff ) ) then
95                     echo "Library directory to be used is $argv[$index2]"
96                     echo ""
97                     goto Library_Found
98                 else
99                     echo ""
100                    echo "FATAL ERROR:"
101                    echo "    The RLF library ($argv[$index2]) you"
102                    echo "    indicated from the command line is invalid."
103                    echo "    You must set it to a proper RLF library location."
104                    echo ""

```

```

105
106             exit(-1)
107
108             endif
109         endif
110
111         @ index++
112
113     end
114
115 endif
116
117 echo ""
118 echo "FATAL ERROR:"
119 echo "    RLF_LIBRARIES is currently unset."
120 echo "    You must set it to the proper location"
121 echo "    or specify a library directory with "
122 echo "    a command line option."
123 echo ""
124
125     exit(-1)
126
127 else if ( ( ! -d $RLF_LIBRARIES/Text ) || ( ! -d $RLF_LIBRARIES/Taustuff ) ) then
128
129     echo ""
130     echo "FATAL ERROR:"
131     echo "    RLF_LIBRARIES is incorrectly set."
132     echo "    There are missing elements in the libraries."
133     echo "    You must set it to the proper location."
134     echo ""
135
136     exit(-1)
137
138 endif
139
140 echo "Currently, RLF_LIBRARIES = "
141 echo " $RLF_LIBRARIES"
142 echo ""
143
144 Library_Found:
145
146 #-----
147 # Set other X Window System environment variables (besides DISPLAY).
148 #
149 # Make a couple of guesses as to where the RLF_Browser file resides.
150 # If the RLF_Browser is not found, then alert the user.
151 #-----
152 if ( ! $?XAPPLRESDIR ) then
153
154     No_Browser_File:
155
156     if ( -e RLF_Browser ) then
157
158         setenv XAPPLRESDIR '/bin/pwd'

```



```
159
160     else
161         if ( ! -e /usr/lib/X11/app-defaults/RLF_Browser ) then
162
163             echo ""
164             echo "WARNING: "
165             echo "     Environment variable XAPPLRESDIR is undefined."
166             echo "     You need to find the pathname to the RLF_Browser file."
167             echo "     Then issue the following command:"
168             echo "         setenv XAPPLRESDIR <pathname>"
169             echo ""
170             echo ""
171
172         else
173
174             echo ""
175             echo "You will be using the following RLF_Browser resource file"
176             echo "  /usr/lib/X11/app-defaults/RLF_Browser"
177             echo ""
178             setenv XAPPLRESDIR /usr/lib/X11/app-defaults
179
180         endif
181
182     endif
183
184 else
185     if ( ! -e $XAPPLRESDIR/RLF_Browser ) then
186
187         goto No_Browser_File
188
189     endif
190
191 endif
192
193 #-----
194 # Check if a "bitmaps" directory resides beneath $XAPPLRESDIR.
195 #-----
196 if ( $?XAPPLRESDIR ) then
197     echo ""
198     echo "Currently, XAPPLRESDIR = "
199     echo "  $XAPPLRESDIR"
200     echo ""
201
202     if ( ! -d $XAPPLRESDIR/bitmaps ) then
203         echo ""
204         echo "WARNING: "
205         echo "     Bitmaps directory not found:"
206         echo "     $XAPPLRESDIR/bitmaps was not found.""
207         echo ""
208         echo "     The RLF Graphical Browser will not be able to display"
209         echo "     its bitmaps for the graph nodes. This may make the"
210         echo "     graph display less aesthetically pleasing."
211         echo ""
212         echo "     The 'bitmaps' directory should exist as a subdirectory"
```

```
213         echo "      from the location of the 'RLF_Browser' file."
214         echo "      (This is a Motif limitation.)"
215         echo ""
216     endif
217 endif
218
219 #-----
220 # If the user has not already defined the environment variables
221 # RLF_PAGER and RLF_EDITOR, the script will default the to be
222 # "more" and "vi", respectively.
223 #-----
224 if ( ! $?RLF_PAGER ) then
225     setenv RLF_PAGER    more
226 endif
227
228 if ( ! $?RLF_EDITOR ) then
229     setenv RLF_EDITOR   vi
230 endif
231
232 echo ""
233 echo "RLF_PAGER = $RLF_PAGER"
234 echo "RLF_EDITOR = $RLF_EDITOR"
235 if ( ! $?RLF_WORKING_DIR ) then
236     echo ""
237     echo "RLF_WORKING_DIR undefined, so default to current working directory."
238     echo ""
239     setenv RLF_WORKING_DIR 'pwd'
240 endif
241 echo "RLF_WORKING_DIR = $RLF_WORKING_DIR"
242 echo ""
243
244 #-----
245 # Invoke the RLF Graphical_Browser with any command line arguments
246 # entered by the user.
247 #-----
248 echo ""
249 echo "Starting the RLF Graphical Browser..."
250 echo ""
251 Graphical_Browser $argv
```

C Appendix: PCTE Installation

C.1 Scripts for Installing the PCTE RLF Binary Release

C.1.1 Script: Install_Rlf_pcte_bin

```

1  #! /bin/csh -f
2  #-----
3  #
4  # Install_RLF_pcte_bin - C Shell script to install RLF v.4.1 Binary Release.
5  #                      This script installs the software.
6  #
7  # Usage: Install_RLF_pcte_bin
8  #
9  #-----
10 setenv PCTE Y                # Indicate PCTE installation.
11 set config_file = "bin/Install_RLF.var"    # Name of installation
12                                           # configuration file.
13 set interactv_install = "bin/Install_RLF.csh" # Name of interactive
14                                           # installation file.
15
16 stty ignbrk                  # ignore break on input
17 stty -brkint                 # don't signal SIGINT on break
18
19 set cmdname = $0
20 if ( $#argv != 0 ) then      # check cmd line usage
21     echo "Usage: $cmdname:t" # print only tail of cmd name
22     exit
23 endif
24
25 /usr/ucb/clear               # clear the screen
26
27                             # Display initial menu
28 cat << I_SCREEN_X
29
30 +-----+
31 |
32 |          RLF 4.1 Installation Script
33 |          Binary Release
34 |
35 +-----+
36
37     You must choose one of the following installation options:
38
39
40     1) Interactive installation
41
42         * You are prompted for all necessary
43         configuration values (i.e., pathnames).
44
45
46     2) Edit the file that contains the configuration values
47

```

```
48          * You edit the file "Install_RLF.var" and
49          set the configuration values appropriately
50          for your site.
51
52
53          3) EXIT this script.
54
55
56
57          (If you do not edit the "Install_RLF.var" file, or specify
58          invalid values, you will be prompted for the configuration
59          values anyway.)
60
61
62          Which installation option do you prefer?
63
64          X_SCREEN_X
65
66          #
67          # Read input from user.
68          #
69          set answer = 0
70          echo -n "Please enter 1, 2, or 3 > "
71          set noglob
72          set answer = ( $< )
73          set answer = ( $answer )
74          set answer = $answer[1]
75
76
77          Get_Valid_Input:
78          while ( $answer[1] != 1 && $answer[1] != 2 && $answer[1] != 3 )
79              echo ""
80              echo "I*** Invalid input. Please try again. ***"
81              echo ""
82              echo -n "Please enter A NUMBER: 1, 2, or 3 > "
83              set answer = ( $< )
84              set answer = ( $answer )
85              set answer = $answer[1]
86
87          end
88          while ( $answer[1] < 1 || $answer[1] > 3 )
89              echo ""
90              echo "I*** Invalid input. Please try again. ***"
91              echo ""
92              echo -n "Please enter 1, 2, or 3 > "
93              set answer = ( $< )
94              set answer = ( $answer )
95              set answer = $answer[1]
96          end
97
98          echo ""
99          echo "You chose: $answer[1]"
100
101          #
```

```

102 # Process input, execute appropriate procedure.
103 #
104 switch ( "$answer[1]" )      # look at char
105     case [1]:                # Interactive
106         echo ""
107         echo "+-----+"
108         echo "|   Executing interactive installation script.   |"
109         echo "+-----+"
110         echo ""
111         source $interactv_install
112         breaksw
113
114     case [2]:                # Edit the 'var' file
115         #
116         # Calculate string lengths for proper display.
117         #
118         set beginning = "      |               $config_file"
119
120         @ line = 'expr length "      +-----+" '
121         @ remainder = $line - 'expr length "$beginning"'
122
123         echo ""
124         echo "      +-----+"
125         echo "      |   To install the Reuse Library Framework binary   |"
126         echo "      |   release in batch mode, you must edit the       |"
127         echo "      |   installation configuration file:                   |"
128         echo "      |"
129
130         set ctr = 1
131
132         set line = "${beginning}"
133         while ( $ctr < $remainder )
134             set line = "${line} "
135             @ ctr = $ctr + 1
136         end
137         echo -n "$line"
138         echo "|"
139         echo "      |   Then execute the command:                           |"
140         echo "      |"
141         echo "      |               Install_RLF.csh >& LOG &                       |"
142         echo "      |"
143         echo "      |   Once the job is finished, check the LOG file for       |"
144         echo "      |   errors.                                                  |"
145         echo "      |"
146         echo "      +-----+"
147         breaksw
148
149     case [3]:                # Exit
150         echo ""
151         echo "Exiting installation script."
152         breaksw
153
154     case [!%]:

```

```
155      echo ""
156      echo "Pathological input."
157      echo "Of course C shell scripts are breakable, please be kind."
158      echo "I"
159      exit -1
160      breaksw
161
162      default:
163          # if here, something's wrong
164          echo "*** Invalid input. ***"
165          goto Get_Valid_Input
166          breaksw
167      endsw
168
169
170      echo ""
171      exit 1
172
173
```

C.1.2 Script: Install_Rlf.csh

```
1  #!/bin/csh -f
2  #-----
3  #
4  # Install_RLF.csh - C Shell script to install the Source Code Release
5  #                  of the RLF 4.1 software.
6  #
7  #-----
8  #
9  # Uncomment the following two lines if you need to increase the
10 # system resources on your host; else ignore.
11 #
12 ###limit stacksize unlimited
13 ###limit datasize unlimited
14
15 #
16 # Read in the site-dependent data from the 'var' file.
17 #
18 echo ""
19 echo "Define the site-dependent environment variables."
20 echo "-----"
21 echo ""
22 source ./Install_RLF.var
23
24 echo ""
25 echo "Moving the RLF GB resource file (RLF_Browser) to: "
26 echo "  $APPDEFAULTS"
27 echo ""
28 mv -f $RLFBIN/RLF_Browser $APPDEFAULTS
29
30 echo ""
31 echo "Moving the RLF GB bitmap files to: "
32 echo "  $BITMAPS"
33 echo ""
34 if ( ! -e $BITMAPS ) mkdir $BITMAPS
35 mv -f $RLFBIN/bitmaps/* $BITMAPS
36
37 echo ""
38 echo "Installation Complete"
39 echo ""
```

C.1.3 File: Install_Rlf.var

```

1 #-----
2 #
3 # Install_RLF.var - RLF software installation configuration file.
4 #
5 #-----
6
7 #
8 # Directory for installation of the RLF Graphical Browser resource file
9 # and the bitmaps sub-directory.
10 # Note: You usually need root priveledge to write in this directory,
11 # Installation of the resource file and the bitmaps sub-directory will fail
12 # if write permission id denied.
13 #
14 setenv APPDEFAULTS /usr/lib/X11/app-defaults
15 setenv BITMAPS $APPDEFAULTS/bitmaps
16
17 #
18 # Uncomment and edit these lines if you do not want to
19 # be prompted for the environment variables (i.e., if you
20 # want to run the script in batch mode instead of interactively.)
21 #
22
23 #setenv RLFHOME /myhome/test/rlf/4.0
24
25 #
26 # Uncomment (but do not edit) these lines.
27 #
28
29 #setenv RLFBIN $RLFHOME/bin
30
31 #-----
32 # END OF REQUIRED EDITING FOR BATCH MODE
33 #-----
34
35 #
36 # Define the location of RLFHOME
37 #
38 setRLFHOME:
39 if ( $?RLFHOME == 0 ) then # if NOT set
40     echo ""
41     echo "Specify path to top-level RLFHOME directory "
42     echo "----- "
43     echo " Examples: "
44     echo " /mybase/RLF "
45     echo " /afs/myhome/see/rlf "
46     echo " /usr/tools/rlf "
47     echo " etc. "
48     echo ""
49     echo ""
50     echo -n " RLFHOME = "
51     set noglob
52     setenv RLFHOME $<

```



```
53     echo ""
54 endif
55
56 if ( $RLFHOME == "" ) then
57     unsetenv RLFHOME
58     goto setRLFHOME
59 endif
60
61 if ( ! -e $RLFHOME ) then
62     echo ""
63     echo "I*** $RLFHOME does not exist ***"
64     echo "*** Please try again. ***"
65     echo ""
66     unsetenv RLFHOME
67     goto setRLFHOME
68 else
69     if ( ! $?RLFBIN ) then
70         if ( $PCTE == Y ) then
71             setenv RLFBIN $RLFHOME/pcte/bin
72         else
73             setenv RLFBIN $RLFHOME/unix/bin
74         endif
75     end if
76
77 endif
78
79 echo ""
80 echo "          RLFHOME = $RLFHOME"
81 echo "          RLFBIN = $RLFBIN"
82 echo ""
83 echo "          APPDEFAULTS = $APPDEFAULTS"
84 echo "          BITMAPS = $BITMAPS"
85 echo ""
```

C.2 Scripts for Building Sample Networks

C.2.1 Script: Build_Ada_X_Lib.esh

```

1  #
2  # This script copies the necessary files from UNIX into the object base
3  # and executes the Lmdl translator on the Lmdl script.
4  #
5  # The user must pass the base directory for the RLF release as the first
6  # argument. This would be the same directory as the variable 'RLF' is
7  # set in the Build_AdaPCTE.var file.
8  #
9  baseline=$1/models/ada_x
10 lmdl=$1/pcte/bin/Lmdl
11 rbd1=$1/pcte/bin/Rbd1
12
13 if [ ${RLF_LIBRARIES-...} = "..." ]; then
14     echo RLF_LIBRARIES is not defined
15     echo "Specify path to the RLF libraries"
16     echo "(e.g. ~/Libraries)"
17     echo ""
18     echo -n " RLF_LIBRARIES = "
19     read RLF_LIBRARIES
20 else
21     echo "RLF_LIBRARIES = $RLF_LIBRARIES"
22 fi
23
24 if [ ! -d $RLF_LIBRARIES ]; then
25     echo Creating the library: $RLF_LIBRARIES
26     obj_create dir $RLF_LIBRARIES
27     obj_set_pref -.e $RLF_LIBRARIES
28     obj_create dir $RLF_LIBRARIES/Text
29     obj_set_pref -.e $RLF_LIBRARIES/Text
30 elif [ ! -d $RLF_LIBRARIES/Text ]; then
31     obj_create dir $RLF_LIBRARIES/Text
32     obj_set_pref -.e $RLF_LIBRARIES/Text
33 fi
34
35 # create the directory for RLF scripts
36 # and copy the built-in action scripts into it
37 if [ ! -d $RLF_LIBRARIES/rlf_tools ]; then
38     obj_create dir $RLF_LIBRARIES/rlf_tools
39     obj_set_pref -.tool $RLF_LIBRARIES/rlf_tools
40     obj_copy -l -c -t sctx $1/pcte/bin/*.tool $RLF_LIBRARIES/rlf_tools
41     obj_set_mode 755 $RLF_LIBRARIES/rlf_tools/*.tool
42 fi
43
44 echo ""
45 echo "Creating required sub-directories"
46 echo ""
47 if [ ! -d $RLF_LIBRARIES/Taustuff ]; then
48     obj_create dir $RLF_LIBRARIES/Taustuff
49     obj_set_pref -.e $RLF_LIBRARIES/Taustuff
50 fi

```

```
51
52 rlf_ada_x=$RLF_LIBRARIES/Text/ada_x
53 if [ ! -d $rlf_ada_x ]; then
54     obj_create_dir $rlf_ada_x
55     obj_set_pref -.e $rlf_ada_x
56 fi
57
58 echo ""
59 echo -n "Load the Lmdl script into the object base in"
60 echo " ada_x.e/ada_x_lmdl.e"
61 echo ""
62 if [ ! -d ada_x.e ]; then
63     obj_create_dir ada_x.e
64     obj_set_pref -.e ada_x.e
65 fi
66
67 obj_copy -c $baseline/ada_x_pcte.lmdl ada_x.e/ada_x_lmdl
68
69
70 for file in $baseline/*.rbdl
71 do
72     obj_copy -c $file ada_x.e/'basename $file .rbdl'_r.e
73 done
74
75 echo ""
76 echo "Initializing text files"
77 echo ""
78 base_text=$baseline/Text
79
80 #
81 # copy the action scripts into Text/ada_x
82 #
83 obj_copy -l -c -t sctx $base_text/*tool $rlf_ada_x
84
85 #
86 # create the Widgets, Xlib, Xmu, It
87 #
88 rlf_xlib=$rlf_ada_x/Xlib
89 if [ ! -d $rlf_xlib ]; then
90     obj_create_dir $rlf_xlib
91     obj_set_pref -.e $rlf_xlib
92 fi
93
94 rlf_widgets=$rlf_ada_x/Widgets
95 if [ ! -d $rlf_widgets ]; then
96     obj_create_dir $rlf_widgets
97     obj_set_pref -.e $rlf_widgets
98 fi
99
100 rlf_xmu=$rlf_ada_x/Xmu
101 if [ ! -d $rlf_xmu ]; then
102     obj_create_dir $rlf_xmu
103     obj_set_pref -.e $rlf_xmu
104 fi
```

```
105
106 rlf_xt=$rlf_ada_x/Xt
107 if [ ! -d $rlf_xt ]; then
108     obj_create_dir $rlf_xt
109     obj_set_pref -.e $rlf_xt
110 fi
111
112 for file in $base_text/Widgets/*.a
113 do
114     if [ 'basename $file .SU.a' = 'basename $file' ]; then
115         obj_copy -c $file $rlf_widgets/'basename $file .a'_a.e
116     else
117         obj_copy -c $file $rlf_widgets/'basename $file .SU.a'_SU_a.e
118     fi
119 done
120
121 for file in $base_text/Xlib/*.a
122 do
123     if [ 'basename $file .SU.a' = 'basename $file' ]; then
124         obj_copy -c $file $rlf_xlib/'basename $file .a'_a.e
125     else
126         obj_copy -c $file $rlf_xlib/'basename $file .SU.a'_SU_a.e
127     fi
128 done
129
130 for file in $base_text/Xmu/*.a
131 do
132     if [ 'basename $file .SU.a' = 'basename $file' ]; then
133         obj_copy -c $file $rlf_xmu/'basename $file .a'_a.e
134     else
135         obj_copy -c $file $rlf_xmu/'basename $file .SU.a'_SU_a.e
136     fi
137 done
138
139 for file in $base_text/Xt/*.a
140 do
141     if [ 'basename $file .SU.a' = 'basename $file' ]; then
142         if [ 'basename $file .SU2.a' = 'basename $file' ]; then
143             obj_copy -c $file $rlf_xt/'basename $file .a'_a.e
144         else
145             obj_copy -c $file $rlf_xt/'basename $file .SU2.a'_SU2_a.e
146         fi
147     else
148         obj_copy -c $file $rlf_xt/'basename $file .SU.a'_SU_a.e
149     fi
150 done
151
152 echo ""
153 echo "Building Lmdl Network from ada_x_lmdl"
154 echo ""
155 $lmdl ada_x.e/ada_x_lmdl
156
157 for file in ada_x.e/*_r
158 do
```

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159 \$rbd1 \$file
160 done

C.2.2 Script: Build_Animals_Lib.esh

```

1 #
2 # This script copies the necessary files from UNIX into the object base
3 # and executes the Lmdl translator on the Lmdl script.
4 #
5 # The user must pass the base directory for the RLF release as the first
6 # argument. This would be the same directory as the variable 'RLF' is
7 # set in the Build_AdaPCTE.var file.
8 #
9 baseline=$1/models/animals
10 lmdl=$1/pcte/bin/Lmdl
11
12
13 if [ ${RLF_LIBRARIES-...} = "..." ]; then
14     echo RLF_LIBRARIES is not defined
15     echo "Specify path to the RLF libraries"
16     echo "(e.g. ~/Libraries)"
17     echo ""
18     echo -n " RLF_LIBRARIES = "
19     read RLF_LIBRARIES
20 else
21     echo "RLF_LIBRARIES = $RLF_LIBRARIES"
22 fi
23
24 if [ ! -d $RLF_LIBRARIES ]; then
25     echo Creating the library: $RLF_LIBRARIES
26     obj_create dir $RLF_LIBRARIES
27     obj_set_pref -.e $RLF_LIBRARIES
28     obj_create dir $RLF_LIBRARIES/Text
29     obj_set_pref -.e $RLF_LIBRARIES/Text
30 elif [ ! -d $RLF_LIBRARIES/Text ]; then
31     obj_create dir $RLF_LIBRARIES/Text
32     obj_set_pref -.e $RLF_LIBRARIES/Text
33 fi
34
35 # create the directory for RLF scripts
36 # and copy the built-in action scripts into it
37 if [ ! -d $RLF_LIBRARIES/rlf_tools ]; then
38     obj_create dir $RLF_LIBRARIES/rlf_tools
39     obj_set_pref -.tool $RLF_LIBRARIES/rlf_tools
40     obj_copy -l -c -t sctx $1/pcte/bin/*.tool $RLF_LIBRARIES/rlf_tools
41     obj_set_mode 755 $RLF_LIBRARIES/rlf_tools/*.tool
42 fi
43
44 echo ""
45 echo "Creating required sub-directories"
46 echo ""
47 if [ ! -d $RLF_LIBRARIES/Text/animals ]; then
48     obj_create dir $RLF_LIBRARIES/Text/animals
49     obj_set_pref -.e $RLF_LIBRARIES/Text/animals
50 fi
51
52 if [ ! -d $RLF_LIBRARIES/Taustuff ]; then

```

```
53  obj_create dir $RLF_LIBRARIES/Taustuff
54  obj_set_pref -.e $RLF_LIBRARIES/Taustuff
55  fi
56
57  echo ""
58  echo "Load the Lmdl script into the object base in animals.e/animals_lmdl.e"
59  echo ""
60  if [ ! -d animals.e ]; then
61    obj_create dir animals.e
62    obj_set_pref -.e animals.e
63  fi
64
65  obj_copy -c $baseline/animals_pcte.lmdl animals.e/animals_lmdl
66
67  echo ""
68  echo "Initializing text files"
69  echo ""
70  obj_copy -c $baseline/Text/del $RLF_LIBRARIES/Text/animals/del
71  obj_copy -c $baseline/Text/dick $RLF_LIBRARIES/Text/animals/dick
72  obj_copy -c $baseline/Text/snoopy $RLF_LIBRARIES/Text/animals/snoopy
73  obj_copy -c $baseline/Text/teri $RLF_LIBRARIES/Text/animals/teri
74  obj_copy -c $baseline/Text/tim $RLF_LIBRARIES/Text/animals/tim
75
76  obj_copy -c $baseline/Text/xterm_pager.tool $RLF_LIBRARIES/Text/animals/xterm_pager.tool
77
78  echo ""
79  echo "Building Lmdl Network from animals_lmdl"
80  echo ""
81  $lmdl animals.e/animals_lmdl
```

C.2.3 Script: Build_Asw_Lib.esh

```

1  #
2  # This script builds a sample Anti-Submarine Warfare library for the RLF.
3  #
4  #
5  # This script copies the necessary files from UNIX into the object base
6  # and executes the Lmdl translator on the Lmdl script.
7  #
8  # The user must pass the base directory for the RLF release as the first
9  # argument. This would be the same directory as the variable 'RLF' is
10 # set in the Build_AdaPCTE.var file.
11 #
12 baseline=$1/models/asw
13 lmdl=$1/pcte/bin/Lmdl
14
15
16 if [ ${RLF_LIBRARIES-...} = "..." ]; then
17     echo RLF_LIBRARIES is not defined
18     echo "Specify path to the RLF libraries"
19     echo "(e.g. ~/Libraries)"
20     echo ""
21     echo -n "   RLF_LIBRARIES = "
22     read RLF_LIBRARIES
23 else
24     echo "RLF_LIBRARIES = $RLF_LIBRARIES"
25 fi
26
27 if [ ! -d $RLF_LIBRARIES ]; then
28     echo Creating the library: $RLF_LIBRARIES
29     obj_create dir $RLF_LIBRARIES
30     obj_set_pref -.e $RLF_LIBRARIES
31     obj_create dir $RLF_LIBRARIES/Text
32     obj_set_pref -.e $RLF_LIBRARIES/Text
33 elif [ ! -d $RLF_LIBRARIES/Text ]; then
34     obj_create dir $RLF_LIBRARIES/Text
35     obj_set_pref -.e $RLF_LIBRARIES/Text
36 fi
37
38 # create the directory for RLF scripts
39 # and copy the built-in action scripts into it
40 if [ ! -d $RLF_LIBRARIES/rlf_tools ]; then
41     obj_create dir $RLF_LIBRARIES/rlf_tools
42     obj_set_pref -.tool $RLF_LIBRARIES/rlf_tools
43     obj_copy -l -c -t sctx $1/pcte/bin/*.tool $RLF_LIBRARIES/rlf_tools
44     obj_set_mode 755 $RLF_LIBRARIES/rlf_tools/*.tool
45 fi
46
47 echo ""
48 echo "Creating required sub-directories"
49 echo ""
50 if [ ! -d $RLF_LIBRARIES/Text/asw ]; then
51     obj_create dir $RLF_LIBRARIES/Text/asw
52     obj_set_pref -.e $RLF_LIBRARIES/Text/asw

```



```
53 fi
54
55 if [ ! -d $RFL_LIBRARIES/Taustuff ]; then
56     obj_create dir $RFL_LIBRARIES/Taustuff
57     obj_set_pref -.e $RFL_LIBRARIES/Taustuff
58 fi
59
60 echo ""
61 echo "Initializing text files"
62 echo ""
63 obj_copy -c $baseline/Text/AGP_CommandsSada $RFL_LIBRARIES/Text/asw/AGP_CommandsSada
64 obj_copy -c $baseline/Text/AGP_InputBada $RFL_LIBRARIES/Text/asw/AGP_InputBada
65 obj_copy -c $baseline/Text/AGP_InputSada $RFL_LIBRARIES/Text/asw/AGP_InputSada
66
67 obj_copy -c $baseline/Text/AGP_Memory_ManagerSada $RFL_LIBRARIES/Text/asw/AGP_Memory_ManagerSada
68 obj_copy -c $baseline/Text/AGP_OutputBada $RFL_LIBRARIES/Text/asw/AGP_OutputBada
69 obj_copy -c $baseline/Text/AGP_OutputSada $RFL_LIBRARIES/Text/asw/AGP_OutputSada
70
71 obj_copy -c $baseline/Text/confirm_panel_package $RFL_LIBRARIES/Text/asw/confirm_panel_package
72 obj_copy -c $baseline/Text/dialog_public_a $RFL_LIBRARIES/Text/asw/dialog_public_a
73 obj_copy -c $baseline/Text/dialog_publica $RFL_LIBRARIES/Text/asw/dialog_publica
74 obj_copy -c $baseline/Text/dialog_publica2 $RFL_LIBRARIES/Text/asw/dialog_publica2
75 obj_copy -c $baseline/Text/form_public_a $RFL_LIBRARIES/Text/asw/form_public_a
76 obj_copy -c $baseline/Text/form_publica $RFL_LIBRARIES/Text/asw/form_publica
77
78 obj_copy -c $baseline/Text/viewport_public_a $RFL_LIBRARIES/Text/asw/viewport_public_a
79 obj_copy -c $baseline/Text/viewport_publica $RFL_LIBRARIES/Text/asw/viewport_publica
80 obj_copy -c $baseline/Text/xterm_int.tool $RFL_LIBRARIES/Text/asw/xterm_int.tool
81 obj_copy -c $baseline/Text/xterm_less.tool $RFL_LIBRARIES/Text/asw/xterm_less.tool
82
83 # make them executable
84
85 obj_set_mode ug+x $RFL_LIBRARIES/Text/asw/xterm_int.tool $RFL_LIBRARIES/Text/asw/xterm_less.tool
86
87 echo ""
88 echo "Load the Lmdl script into the object base in asw.e/asw_lmdl.e"
89 echo ""
90 if [ ! -d asw.e ]; then
91     obj_create dir asw.e
92     obj_set_pref -.e asw.e
93 fi
94 obj_copy -c $baseline/asw_pcte.lmdl asw.e/asw_lmdl.e
95
96 echo ""
97 echo "Building library model from asw.lmdl"
98 echo ""
99 $lmdl asw.e/asw_lmdl.e
```

C.2.4 Script: Build_Common_Data_Model_Lib.esh

```

1 #
2 # This script copies the necessary files from UNIX into the object base
3 # and executes the Lmdl translator on the Lmdl script.
4 #
5 # The user must pass the base directory for the RLF release as the first
6 # argument. This would be the same directory as the variable 'RLF' is
7 # set in the Build_AdaPCTE.var file.
8 #
9 baseline=$1/models/common_data_model
10 lmdl=$1/pcte/bin/Lmdl
11 rbd1=$1/pcte/bin/Rbd1
12
13 if [ ${RLF_LIBRARIES-...} = "..." ]; then
14     echo RLF_LIBRARIES is not defined
15     echo "Specify path to the RLF libraries"
16     echo "(e.g. ~/Libraries)"
17     echo ""
18     echo -n " RLF_LIBRARIES = "
19     read RLF_LIBRARIES
20 else
21     echo "RLF_LIBRARIES = $RLF_LIBRARIES"
22 fi
23
24 if [ ! -d $RLF_LIBRARIES ]; then
25     echo Creating the library: $RLF_LIBRARIES
26     obj_create dir $RLF_LIBRARIES
27     obj_set_pref -.e $RLF_LIBRARIES
28     obj_create dir $RLF_LIBRARIES/Text
29     obj_set_pref -.e $RLF_LIBRARIES/Text
30 elif [ ! -d $RLF_LIBRARIES/Text ]; then
31     obj_create dir $RLF_LIBRARIES/Text
32     obj_set_pref -.e $RLF_LIBRARIES/Text
33 fi
34
35 # create the directory for RLF scripts
36 # and copy the built-in action scripts into it
37 if [ ! -d $RLF_LIBRARIES/rlf_tools ]; then
38     obj_create dir $RLF_LIBRARIES/rlf_tools
39     obj_set_pref -.tool $RLF_LIBRARIES/rlf_tools
40     obj_copy -l -c -t sctx $1/pcte/bin/*.tool $RLF_LIBRARIES/rlf_tools
41     obj_set_mode 755 $RLF_LIBRARIES/rlf_tools/*.tool
42 fi
43
44 echo ""
45 echo "Creating required sub-directories"
46 echo ""
47 if [ ! -d $RLF_LIBRARIES/Taustuff ]; then
48     obj_create dir $RLF_LIBRARIES/Taustuff
49     obj_set_pref -.e $RLF_LIBRARIES/Taustuff
50 fi
51
52 rlf_satText=$RLF_LIBRARIES/Text/satText

```

```
53  if [ ! -d $rlf_satText ]; then
54      obj_create dir $rlf_satText
55      obj_set_pref -.e $rlf_satText
56  fi
57
58  echo ""
59  echo -n "Load the Lmdl script into the object base in"
60  echo " common_data_model.e/common_data_model_lmdl.e"
61  echo ""
62  if [ ! -d common_data_model.e ]; then
63      obj_create dir common_data_model.e
64      obj_set_pref -.e common_data_model.e
65  fi
66
67
68  obj_copy -c $baseline/common_data_model_pcte.lmdl common_data_model.e/common_data_model_lmdl
69
70  echo ""
71  echo "Initializing text files"
72  echo ""
73  base_text=$baseline/Text
74  rlf_text=$RLF_LIBRARIES/Text/satText
75
76  obj_copy -c $base_text/astromical_constants_s.a $rlf_text/astromical_constants_s.a
77
78  obj_copy -c $base_text/desc_astromical_constants_s $rlf_text/desc_astromical_constants_s
79
80  obj_copy -c $base_text/desc_math_interface_sb $rlf_text/desc_math_interface_sb
81
82  obj_copy -c $base_text/desc_overpass $rlf_text/desc_overpass
83
84  obj_copy -c $base_text/desc_sat_comp_sb $rlf_text/desc_sat_comp_sb
85
86  obj_copy -c $base_text/desc_sat_io_b $rlf_text/desc_sat_io_b
87
88  obj_copy -c $base_text/desc_sat_io_s $rlf_text/desc_sat_io_s
89
90  obj_copy -c $base_text/desc_units_s $rlf_text/desc_units_s
91
92  obj_copy -c $base_text/math_interface_sb.a $rlf_text/math_int_sb_a
93
94  obj_copy -c $base_text/overpass.a $rlf_text/overpass_a
95
96  obj_copy -c $base_text/restr_as_is_warranty $rlf_text/restr_as_is_warranty
97
98  obj_copy -c $base_text/sat_comp_sb.a $rlf_text/sat_comp_sb_a
99
100 obj_copy -c $base_text/sat_io_b.a $rlf_text/sat_io_b_a
101
102 obj_copy -c $base_text/sat_io_s.a $rlf_text/sat_io_s_a
103
104 obj_copy -c $base_text/units_s.a $rlf_text/units_s_a
105
106
107 echo ""
108 echo "Building Lmdl Network from common_data_model_lmdl"
109 echo ""
110 $lmdl common_data_model.e/common_data_model_lmdl
```

C.2.5 Script: Build_Demo_Actions_Lib.esh

```

1  #
2  # This script builds a demonstration actions library for the RLF.
3  #
4  # The user must pass the base directory for the RLF release as the first
5  # argument. This would be the same directory as the variable 'RLF' is
6  # set in the Build_AdaPCTE.var file.
7  #
8  baseline=$1/models/demo_actions
9  lmdl=$1/pcte/bin/Lmdl
10
11  if [ ${RLF_LIBRARIES-...} = "..." ]; then
12      echo RLF_LIBRARIES is not defined
13      echo "Specify path to the RLF libraries"
14      echo "(e.g. ~/Libraries)"
15      echo ""
16      echo -n " RLF_LIBRARIES = "
17      read RLF_LIBRARIES
18  else
19      echo "RLF_LIBRARIES = $RLF_LIBRARIES"
20  fi
21
22  if [ ! -d $RLF_LIBRARIES ]; then
23      echo Creating the library: $RLF_LIBRARIES
24      obj_create dir $RLF_LIBRARIES
25      obj_set_pref -.e $RLF_LIBRARIES
26      obj_create dir $RLF_LIBRARIES/Text
27      obj_set_pref -.e $RLF_LIBRARIES/Text
28  elif [ ! -d $RLF_LIBRARIES/Text ]; then
29      obj_create dir $RLF_LIBRARIES/Text
30      obj_set_pref -.e $RLF_LIBRARIES/Text
31  fi
32
33  # create the directory for RLF scripts
34  # and copy the built-in action scripts into it
35  if [ ! -d $RLF_LIBRARIES/rlf_tools ]; then
36      obj_create dir $RLF_LIBRARIES/rlf_tools
37      obj_set_pref -.tool $RLF_LIBRARIES/rlf_tools
38      obj_copy -l -c -t sctx $1/pcte/bin/*.tool $RLF_LIBRARIES/rlf_tools
39      obj_set_mode 755 $RLF_LIBRARIES/rlf_tools/*.tool
40  fi
41
42  echo ""
43  echo "Creating required sub-directories"
44  echo ""
45  if [ ! -d $RLF_LIBRARIES/Text/demo_actions ]; then
46      obj_create dir $RLF_LIBRARIES/Text/demo_actions
47      obj_set_pref -.e $RLF_LIBRARIES/Text/demo_actions
48  fi
49
50  if [ ! -d $RLF_LIBRARIES/Taustuff ]; then
51      obj_create dir $RLF_LIBRARIES/Taustuff
52      obj_set_pref -.e $RLF_LIBRARIES/Taustuff

```

```
53 fi
54
55 if [ ! -d $RFL_LIBRARIES/Text/demo_actions/sounds ]; then
56     obj_create dir $RFL_LIBRARIES/Text/demo_actions/sounds
57     obj_set_pref -e $RFL_LIBRARIES/Text/demo_actions/sounds
58 fi
59
60 if [ ! -d $RFL_LIBRARIES/Text/demo_actions/xbm ]; then
61     obj_create dir $RFL_LIBRARIES/Text/demo_actions/xbm
62     obj_set_pref -e $RFL_LIBRARIES/Text/demo_actions/xbm
63 fi
64
65 echo ""
66
67 echo "Load the Lmdl script into the object base in demo_actions.e/demo_actions_lmdl.e"
68 echo ""
69 if [ ! -d demo_actions.e ]; then
70     obj_create dir demo_actions.e
71     obj_set_pref -e demo_actions.e
72 fi
73
74 obj_copy -c $baseline/demo_actions_pcte.lmdl demo_actions.e/demo_actions_lmdl
75
76 echo ""
77 echo "Initializing text files"
78 echo ""
79 obj_copy -c $baseline/Text/building $RFL_LIBRARIES/Text/demo_actions/building
80
81 obj_copy -c $baseline/Text/general_floorplan $RFL_LIBRARIES/Text/demo_actions/general_floorplan
82
83 obj_copy -c $baseline/Text/message $RFL_LIBRARIES/Text/demo_actions/message
84
85 obj_copy -c $baseline/Text/my_floorplan $RFL_LIBRARIES/Text/demo_actions/my_floorplan
86
87 obj_copy -c $baseline/Text/sounds/clint_eastwood.au $RFL_LIBRARIES/Text/demo_actions/sounds/clint_ea
88
89 obj_copy -c $baseline/Text/sounds/completely_op.au $RFL_LIBRARIES/Text/demo_actions/sounds/completel
90
91 obj_copy -c $baseline/Text/sounds/goodcoffee.au $RFL_LIBRARIES/Text/demo_actions/sounds/goodcoffee_e
92
93 obj_copy -c $baseline/Text/sounds/kirk_spock_boundary.au $RFL_LIBRARIES/Text/demo_actions/sounds/kir
94
95 obj_copy -c $baseline/Text/sounds/klaxton.au $RFL_LIBRARIES/Text/demo_actions/sounds/klaxton_au
96
97 obj_copy -c $baseline/Text/sounds/mccoy_all.au $RFL_LIBRARIES/Text/demo_actions/sounds/mccoy_all_au
98
99 obj_copy -c $baseline/Text/sounds/phasars_3.au $RFL_LIBRARIES/Text/demo_actions/sounds/phasars_3_au
100
101 obj_copy -c $baseline/Text/sounds/photons_3.au $RFL_LIBRARIES/Text/demo_actions/sounds/photons_3_au
102
103 obj_copy -c $baseline/Text/xbm/Jerry_Bob.xbm $RFL_LIBRARIES/Text/demo_actions/xbm/Jerry_Bob_xbm
104
105 obj_copy -c $baseline/Text/xbm/eye.xbm $RFL_LIBRARIES/Text/demo_actions/xbm/eye_xbm
106
107 obj_copy -c $baseline/Text/xbm/fist.xbm $RFL_LIBRARIES/Text/demo_actions/xbm/fist_xbm
```

```
95
obj_copy -c $baseline/Text/xbm/full_owl.xbm $RLF_LIBRARIES/Text/demo_actions/xbm/full_owl_xbm
96
obj_copy -c $baseline/Text/xbm/launch.xbm $RLF_LIBRARIES/Text/demo_actions/xbm/launch_xbm
97 obj_copy -c $baseline/Text/xbm/lips.xbm $RLF_LIBRARIES/Text/demo_actions/xbm/lips_xbm
98
obj_copy -c $baseline/Text/xbm/mandelbrot.xbm $RLF_LIBRARIES/Text/demo_actions/xbm/mandelbrot_xbm
99
obj_copy -c $baseline/Text/xbm/mandelbrot_seahorses.xbm $RLF_LIBRARIES/Text/demo_actions/xbm/mandell
100
obj_copy -c $baseline/Text/xbm/nebula.xbm $RLF_LIBRARIES/Text/demo_actions/xbm/nebula_xbm
101
obj_copy -c $baseline/Text/xbm/owl_head.xbm $RLF_LIBRARIES/Text/demo_actions/xbm/owl_head_xbm
102
obj_copy -c $baseline/Text/xbm/planet_miranda.xbm $RLF_LIBRARIES/Text/demo_actions/xbm/planet_mirand
103
obj_copy -c $baseline/Text/xbm/small_galaxy.xbm $RLF_LIBRARIES/Text/demo_actions/xbm/small_galaxy_xb
104
obj_copy -c $baseline/Text/xbm/spock.xbm $RLF_LIBRARIES/Text/demo_actions/xbm/spock_xbm
105
106 echo ""
107 echo "Copying action scripts to PCTE"
108 echo ""
109
obj_copy -c $baseline/Text/imprint.tool $RLF_LIBRARIES/Text/demo_actions/imprint.tool
110 obj_copy -c $baseline/Text/lpr.tool $RLF_LIBRARIES/Text/demo_actions/lpr.tool
111 obj_copy -c $baseline/Text/play.tool $RLF_LIBRARIES/Text/demo_actions/play.tool
112
obj_copy -c $baseline/Text/xloadimage.tool $RLF_LIBRARIES/Text/demo_actions/xloadimage.tool
113
obj_copy -c $baseline/Text/xterm_less.tool $RLF_LIBRARIES/Text/demo_actions/xterm_less.tool
114
obj_copy -c $baseline/Text/xterm_vi.tool $RLF_LIBRARIES/Text/demo_actions/xterm_vi.tool
115
116 echo ""
117 echo "Building LMDL Network from demo_actions.lmdl"
118 echo ""
119 $lmdl demo_actions.e/demo_actions_lmdl
```

C.2.6 Script: Build_SW_Tech_Lib.esh

```
1
2 #
3 # This script builds the Software Technology library for the RLF.
4 #
5 #
6 # This script copies the necessary files from UNIX into the object base
7 # and executes the Lmdl translator on the Lmdl script.
8 #
9 # The user must pass the base directory for the RLF release as the first
10 # argument. This would be the same directory as the variable 'RLF' is
11 # set in the Build_AdaPCTE.var file.
12 #
13 baseline=$1/models/software_technology
14 lmdl=$1/pcte/bin/Lmdl
15
16 #
17 # Locate the RLF Libraries
18 #
19 if [ ${RLF_LIBRARIES-...} = "..." ]; then
20     echo RLF_LIBRARIES is not defined
21     echo "Specify path to the RLF libraries"
22     echo "(e.g. ~/Libraries)"
23     echo ""
24     echo -n "   RLF_LIBRARIES = "
25     read RLF_LIBRARIES
26 else
27     echo "RLF_LIBRARIES = $RLF_LIBRARIES"
28 fi
29
30 if [ ! -d $RLF_LIBRARIES ]; then
31     echo Creating the library: $RLF_LIBRARIES
32     obj_create dir $RLF_LIBRARIES
33     obj_set_pref -e $RLF_LIBRARIES
34     obj_create dir $RLF_LIBRARIES/Text
35     obj_set_pref -e $RLF_LIBRARIES/Text
36 elif [ ! -d $RLF_LIBRARIES/Text ]; then
37     obj_create dir $RLF_LIBRARIES/Text
38     obj_set_pref -e $RLF_LIBRARIES/Text
39 fi
40
41 # create the directory for RLF scripts
42 # and copy the built-in action scripts into it
43 if [ ! -d $RLF_LIBRARIES/rlf_tools ]; then
44     obj_create dir $RLF_LIBRARIES/rlf_tools
45     obj_set_pref -e $RLF_LIBRARIES/rlf_tools
46     obj_copy -l -c -t sctx $1/pcte/bin/*.tool $RLF_LIBRARIES/rlf_tools
47     obj_set_mode 755 $RLF_LIBRARIES/rlf_tools/*.tool
48 fi
49
50 echo ""
51 echo "Creating required sub-directories"
52 echo ""
```

```
53  if [ ! -d $RFL_LIBRARIES/Text/sw_tech ]; then
54      obj_create dir $RFL_LIBRARIES/Text/sw_tech
55      obj_set_pref -.e $RFL_LIBRARIES/Text/sw_tech
56  fi
57
58  if [ ! -d $RFL_LIBRARIES/Taustuff ]; then
59      obj_create dir $RFL_LIBRARIES/Taustuff
60      obj_set_pref -.e $RFL_LIBRARIES/Taustuff
61  fi
62
63  echo ""
64  echo "Load the Lmdl script into the object base in sw_tech.e/sw_tech_lmdl.e"
65  echo ""
66  if [ ! -d sw_tech.e ]; then
67      obj_create dir sw_tech.e
68      obj_set_pref -.e sw_tech.e
69  fi
70
71  obj_copy -c $baseline/sw_tech_pcte.lmdl sw_tech.e/sw_tech_lmdl
72
73  echo ""
74  echo "Initializing text files"
75  echo ""
76
77  obj_copy -c $baseline/SW_Tech_Model_Description.txt sw_tech.e/SW_Tech_Model_Description_txt
78
79  obj_copy -c $baseline/Text/bob_pollack $RFL_LIBRARIES/Text/sw_tech/bob_pollack
80  obj_copy -c $baseline/Text/darpa_isto $RFL_LIBRARIES/Text/sw_tech/darpa_isto
81  obj_copy -c $baseline/Text/jack_chapman $RFL_LIBRARIES/Text/sw_tech/jack_chapman
82  obj_copy -c $baseline/Text/karen_roth $RFL_LIBRARIES/Text/sw_tech/karen_roth
83
84  obj_copy -c $baseline/Text/payton_ssags_paper $RFL_LIBRARIES/Text/sw_tech/payton_ssags_paper
85
86  obj_copy -c $baseline/Text/pollack_and_loftus $RFL_LIBRARIES/Text/sw_tech/pollack_and_loftus
87
88  obj_copy -c $baseline/Text/pollack_mfpl_paper $RFL_LIBRARIES/Text/sw_tech/pollack_mfpl_paper
89
90  obj_copy -c $baseline/Text/pollack_tree_transformation_paper $RFL_LIBRARIES/Text/sw_tech/pollack_tree_transformation_paper
91
92  obj_copy -c $baseline/Text/q13_tools_clc.a $RFL_LIBRARIES/Text/sw_tech/q13_tools_clc_a
93
94  obj_copy -c $baseline/Text/q13_tools_clc.abs $RFL_LIBRARIES/Text/sw_tech/q13_tools_clc_abs
95
96  obj_copy -c $baseline/Text/q13_tools_clc.con $RFL_LIBRARIES/Text/sw_tech/q13_tools_clc_con
97
98  obj_copy -c $baseline/Text/q13_tools_clc_build.csh $RFL_LIBRARIES/Text/sw_tech/q13_tools_clc_build_csh
99
100 obj_copy -c $baseline/Text/q13_tools_clc_test.a $RFL_LIBRARIES/Text/sw_tech/q13_tools_clc_test_a
101
102 obj_copy -c $baseline/Text/q9-c300.abs $RFL_LIBRARIES/Text/sw_tech/q9_c300_abs
103 obj_copy -c $baseline/Text/q9-c300.con $RFL_LIBRARIES/Text/sw_tech/q9_c300_con
104 obj_copy -c $baseline/Text/q9-c300.doc $RFL_LIBRARIES/Text/sw_tech/q9_c300_doc
105 obj_copy -c $baseline/Text/q9-c300.ref $RFL_LIBRARIES/Text/sw_tech/q9_c300_ref
106 obj_copy -c $baseline/Text/q9-c300.tem $RFL_LIBRARIES/Text/sw_tech/q9_c300_tem
107 obj_copy -c $baseline/Text/q9-c340.abs $RFL_LIBRARIES/Text/sw_tech/q9_c340_abs
```



```
97  obj_copy -c $baseline/Text/q9-c340.con $RLF_LIBRARIES/Text/sw_tech/q9_c340_con
98  obj_copy -c $baseline/Text/q9-c340.doc $RLF_LIBRARIES/Text/sw_tech/q9_c340_doc
99  obj_copy -c $baseline/Text/q9-c340.ref $RLF_LIBRARIES/Text/sw_tech/q9_c340_ref
100 obj_copy -c $baseline/Text/q9-c340.tem $RLF_LIBRARIES/Text/sw_tech/q9_c340_tem
101 obj_copy -c $baseline/Text/q9-c350.abs $RLF_LIBRARIES/Text/sw_tech/q9_c350_abs
102 obj_copy -c $baseline/Text/q9-c350.con $RLF_LIBRARIES/Text/sw_tech/q9_c350_con
103 obj_copy -c $baseline/Text/q9-c350.doc $RLF_LIBRARIES/Text/sw_tech/q9_c350_doc
104 obj_copy -c $baseline/Text/q9-c350.ref $RLF_LIBRARIES/Text/sw_tech/q9_c350_ref
105 obj_copy -c $baseline/Text/q9-c350.tem $RLF_LIBRARIES/Text/sw_tech/q9_c350_tem
106 obj_copy -c $baseline/Text/q9-c360.abs $RLF_LIBRARIES/Text/sw_tech/q9_c360_abs
107 obj_copy -c $baseline/Text/q9-c360.con $RLF_LIBRARIES/Text/sw_tech/q9_c360_con
108 obj_copy -c $baseline/Text/q9-c360.doc $RLF_LIBRARIES/Text/sw_tech/q9_c360_doc
109 obj_copy -c $baseline/Text/q9-c360.ref $RLF_LIBRARIES/Text/sw_tech/q9_c360_ref
110 obj_copy -c $baseline/Text/q9-c360.tem $RLF_LIBRARIES/Text/sw_tech/q9_c360_tem
111
obj_copy -c $baseline/Text/software_a_and_e $RLF_LIBRARIES/Text/sw_tech/software_a_and_e
112
obj_copy -c $baseline/Text/software_technology_inc $RLF_LIBRARIES/Text/sw_tech/software_technology_i
113 obj_copy -c $baseline/Text/ssags.abs $RLF_LIBRARIES/Text/sw_tech/ssags_abs
114 obj_copy -c $baseline/Text/ssags.con $RLF_LIBRARIES/Text/sw_tech/ssags_con
115 obj_copy -c $baseline/Text/ssags.tem $RLF_LIBRARIES/Text/sw_tech/ssags_tem
116 obj_copy -c $baseline/Text/vfl_history $RLF_LIBRARIES/Text/sw_tech/vfl_history
117
118
119 echo ""
120 echo "Building LMDL Network from sw_tech.lmdl"
121 echo ""
122 $lmdl sw_tech.e/sw_tech_lmdl
```

C.2.7 Script: Build_Sort_And_Search_Lib.esh

```
1 #
2 # This script copies the necessary files from UNIX into the object base
3 # and executes the Lmdl translator on the Lmdl script.
4 #
5 # The user must pass the base directory for the RLF release as the first
6 # argument. This would be the same directory as the variable 'RLF' is
7 # set in the Build_AdaPCTE.var file.
8 #
9 baseline=$1/models/sort_and_search
10 lmdl=$1/pcte/bin/Lmdl
11 rbd1=$1/pcte/bin/Rbd1
12
13 if [ ${RLF_LIBRARIES-...} = "..." ]; then
14     echo RLF_LIBRARIES is not defined
15     echo "Specify path to the RLF libraries"
16     echo "(e.g. ~/Libraries)"
17     echo ""
18     echo -n " RLF_LIBRARIES = "
19     read RLF_LIBRARIES
20 else
21     echo "RLF_LIBRARIES = $RLF_LIBRARIES"
22 fi
23
24 if [ ! -d $RLF_LIBRARIES ]; then
25     echo Creating the library: $RLF_LIBRARIES
26     obj_create dir $RLF_LIBRARIES
27     obj_set_pref -.e $RLF_LIBRARIES
28     obj_create dir $RLF_LIBRARIES/Text
29     obj_set_pref -.e $RLF_LIBRARIES/Text
30 elif [ ! -d $RLF_LIBRARIES/Text ]; then
31     obj_create dir $RLF_LIBRARIES/Text
32     obj_set_pref -.e $RLF_LIBRARIES/Text
33 fi
34
35 # create the directory for RLF scripts
36 # and copy the built-in action scripts into it
37 if [ ! -d $RLF_LIBRARIES/rlf_tools ]; then
38     obj_create dir $RLF_LIBRARIES/rlf_tools
39     obj_set_pref -.tool $RLF_LIBRARIES/rlf_tools
40     obj_copy -l -c -t sctx $1/pcte/bin/*.tool $RLF_LIBRARIES/rlf_tools
41     obj_set_mode 755 $RLF_LIBRARIES/rlf_tools/*.tool
42 fi
43
44 echo ""
45 echo "Creating required sub-directories"
46 echo ""
47 if [ ! -d $RLF_LIBRARIES/Taustuff ]; then
48     obj_create dir $RLF_LIBRARIES/Taustuff
49     obj_set_pref -.e $RLF_LIBRARIES/Taustuff
50 fi
51
52 rlf_sas=$RLF_LIBRARIES/Text/sas
```

```

53 if [ ! -d $rlf_sas ]; then
54     obj_create dir $rlf_sas
55     obj_set_pref -.e $rlf_sas
56 fi
57
58 echo ""
59 echo -n "Load the Lmdl script into the object base in"
60 echo " sas.e/sas_lmdl.e"
61 echo ""
62 if [ ! -d sas.e ]; then
63     obj_create dir sas.e
64     obj_set_pref -.e sas.e
65 fi
66
67 obj_copy -c $baseline/sort_and_search_pcte.lmdl sas.e/sas_lmdl
68
69 echo ""
70 echo "Initializing text files"
71 echo ""
72 base_text=$baseline/Text
73 rlf_text=$RLF_LIBRARIES/Text/sas
74 obj_copy -c $base_text/exchange_sort_desc $rlf_text/exchange_sort_desc
75 obj_copy -c $base_text/insertion_sort_desc $rlf_text/insertion_sort_desc
76 obj_copy -c $base_text/selection_sort_desc $rlf_text/selection_sort_desc
77 obj_copy -c $base_text/heap_spec_.a $rlf_text/heap_spec_a
78 obj_copy -c $base_text/quick_sort_.a $rlf_text/quick_sort_a
79 obj_copy -c $base_text/shaker_sort_.a $rlf_text/shaker_sort_a
80 obj_copy -c -t sctx $base_text/xterm_less.tool $rlf_text/xterm_less.tool
81 obj_copy -c -t sctx $base_text/xterm_less_int.tool $rlf_text/xterm_less_int.tool
82 echo ""
83 echo "Building Lmdl Network from sas_lmdl"
84 echo ""
85 $lmdl sas.e/sas_lmdl
86
87 #
88 # Copy rbd1 scripts into object base
89 #
90 obj_copy -c $baseline/algorithms.rbd1 sas.e/algorithms_rbd1
91 obj_copy -c $baseline/insertion_sorts.rbd1 sas.e/insertion_sorts_rbd1
92 obj_copy -c $baseline/shellsort.rbd1 sas.e/shellsort_rbd1
93 obj_copy -c $baseline/binary_ins.rbd1 sas.e/binary_ins_rbd1
94 obj_copy -c $baseline/internal_sorts.rbd1 sas.e/internal_sorts_rbd1
95 obj_copy -c $baseline/sort_algorithms.rbd1 sas.e/sort_algorithms_rbd1
96 obj_copy -c $baseline/diminishing_inc.rbd1 sas.e/diminishing_inc_rbd1
97 obj_copy -c $baseline/quicksort.rbd1 sas.e/quicksort_rbd1
98 obj_copy -c $baseline/straight_ins.rbd1 sas.e/straight_ins_rbd1
99 obj_copy -c $baseline/exchange_sorts.rbd1 sas.e/exchange_sorts_rbd1
100 obj_copy -c $baseline/selection_sorts.rbd1 sas.e/selection_sorts_rbd1
101 obj_copy -c $baseline/straight_sel.rbd1 sas.e/straight_sel_rbd1
102 obj_copy -c $baseline/heapsort.rbd1 sas.e/heapsort_rbd1
103 obj_copy -c $baseline/shakersort.rbd1 sas.e/shakersort_rbd1
104
105
106 echo ""

```

```
107 echo "Creating Inferencer from algorithms.rbd1"
108 echo ""
109 $rbd1 sas.e/algorithms_rbd1
110
111 echo ""
112 echo "Creating Inferencer from insertion_sorts.rbd1"
113 echo ""
114 $rbd1 sas.e/insertion_sorts_rbd1
115
116 echo ""
117 echo "Creating Inferencer from shellsort.rbd1"
118 echo ""
119 $rbd1 sas.e/shellsort_rbd1
120
121 echo ""
122 echo "Creating Inferencer from binary_ins.rbd1"
123 echo ""
124 $rbd1 sas.e/binary_ins_rbd1
125
126 echo ""
127 echo "Creating Inferencer from internal_sorts.rbd1"
128 echo ""
129 $rbd1 sas.e/internal_sorts_rbd1
130
131 echo ""
132 echo "Creating Inferencer from sort_algorithms.rbd1"
133 echo ""
134 $rbd1 sas.e/sort_algorithms_rbd1
135
136 echo ""
137 echo "Creating Inferencer from diminishing_inc.rbd1"
138 echo ""
139 $rbd1 sas.e/diminishing_inc_rbd1
140
141 echo ""
142 echo "Creating Inferencer from quicksort.rbd1"
143 echo ""
144 $rbd1 sas.e/quicksort_rbd1
145
146 echo ""
147 echo "Creating Inferencer from straight_ins.rbd1"
148 echo ""
149 $rbd1 sas.e/straight_ins_rbd1
150
151 echo ""
152 echo "Creating Inferencer from exchange_sorts.rbd1"
153 echo ""
154 $rbd1 sas.e/exchange_sorts_rbd1
155
156 echo ""
157 echo "Creating Inferencer from selection_sorts.rbd1"
158 echo ""
159 $rbd1 sas.e/selection_sorts_rbd1
160
```

```

161 echo ""
162 echo "Creating Inferencer from straight_sel.rbd1"
163 echo ""
164 $rbd1 sas.e/straight_sel_rbd1
165
166 echo ""
167 echo "Creating Inferencer from heapsort.rbd1"
168 echo ""
169 $rbd1 sas.e/heapsort_rbd1
170
171 echo ""
172 echo "Creating Inferencer from shakersort.rbd1"
173 echo ""
174 $rbd1 sas.e/shakersort_rbd1

```

C.2.8 Script: Build_Move_Domain_Lib.esh

```

1 #
2 # This script builds the Cathy Lin's Window Manager library for the RLF.
3 #
4 # The user must pass the base directory for the RLF release as the first
5 # argument. This would be the same directory as the variable 'RLF' is
6 # set in the Build_AdaPCTE.var file.
7 #
8 baseline=$1/models/window_manager
9 lmdl=$1/pcte/bin/Lmdl
10 rbd1=$1/pcte/bin/Rbd1
11
12 if [ ${RLF_LIBRARIES-...} = "..." ]; then
13     echo RLF_LIBRARIES is not defined
14     echo "Specify path to the RLF libraries"
15     echo "(e.g. ~/Libraries)"
16     echo ""
17     echo -n " RLF_LIBRARIES = "
18     read RLF_LIBRARIES
19 else
20     echo "RLF_LIBRARIES = $RLF_LIBRARIES"
21 fi
22
23 if [ ! -d $RLF_LIBRARIES ]; then
24     echo Creating the library: $RLF_LIBRARIES
25     obj_create_dir $RLF_LIBRARIES
26     obj_set_pref -e $RLF_LIBRARIES
27     obj_create_dir $RLF_LIBRARIES/Text
28     obj_set_pref -e $RLF_LIBRARIES/Text
29 elif [ ! -d $RLF_LIBRARIES/Text ]; then
30     obj_create_dir $RLF_LIBRARIES/Text
31     obj_set_pref -e $RLF_LIBRARIES/Text
32 fi
33
34 # create the directory for RLF scripts
35 # and copy the built-in action scripts into it
36 if [ ! -d $RLF_LIBRARIES/rlf_tools ]; then
37     obj_create_dir $RLF_LIBRARIES/rlf_tools

```

```
38  obj_set_pref -.tool $RLF_LIBRARIES/rlf_tools
39  obj_copy -l -c -t sctx $1/pcte/bin/*.tool $RLF_LIBRARIES/rlf_tools
40  obj_set_mode 755 $RLF_LIBRARIES/rlf_tools/*.tool
41  fi
42
43  echo ""
44  echo "Creating required sub-directories"
45  echo ""
46  if [ ! -d $RLF_LIBRARIES/Text/wm_move ]; then
47    obj_create dir $RLF_LIBRARIES/Text/wm_move
48    obj_set_pref -.e $RLF_LIBRARIES/Text/wm_move
49  fi
50
51  if [ ! -d $RLF_LIBRARIES/Taustuff ]; then
52    obj_create dir $RLF_LIBRARIES/Taustuff
53    obj_set_pref -.e $RLF_LIBRARIES/Taustuff
54  fi
55
56  echo ""
57  echo "Initializing text files"
58  echo ""
59  obj_copy -c $baseline/Text/abort_move.att $RLF_LIBRARIES/Text/wm_move/abort_move_att
60
61
62  obj_copy -c $baseline/Text/constrained_move.att $RLF_LIBRARIES/Text/wm_move/constrained_move_att
63
64  obj_copy -c $baseline/Text/expose_after_move.att $RLF_LIBRARIES/Text/wm_move/expose_after_move_att
65
66  obj_copy -c $baseline/Text/move_domain_concept.help $RLF_LIBRARIES/Text/wm_move/move_domain_concept.
67
68  obj_copy -c $baseline/Text/move_icon.att $RLF_LIBRARIES/Text/wm_move/move_icon_att
69
70  obj_copy -c $baseline/Text/partially_off_screen.att $RLF_LIBRARIES/Text/wm_move/partially_off_screer
71
72  obj_copy -c $baseline/Text/tiled_layout.descr $RLF_LIBRARIES/Text/wm_move/tiled_layout_descr
73
74  echo ""
75  echo "Copying tools into Text area"
76  echo ""
77
78  obj_copy -c $baseline/Text/xterm_less_40.tool $RLF_LIBRARIES/Text/wm_move/xterm_less_40.tool
79
80  obj_copy -c $baseline/Text/xterm_less_12.tool $RLF_LIBRARIES/Text/wm_move/xterm_less_12.tool
81
82  echo ""
83  echo "Load the Lmdl script into the object base in window_manager.e/move_domain_lmdl.e"
84  echo ""
```

```
84 if [ ! -d window_manager.e ]; then
85     obj_create dir window_manager.e
86     obj_set_pref -.e window_manager.e
87 fi
88
89 obj_copy -c $baseline/move_domain_pcte.lmdl window_manager.e/move_domain_lmdl
90
91 echo ""
92 echo "Building LMDL Network from move_domain_lmdl"
93 echo ""
94 $lmdl window_manager.e/move_domain_lmdl
95
96 obj_copy -c $baseline/move_domain_rbd1 window_manager.e/move_domain_rbd1
97
98 obj_copy -c $baseline/option_move_resize_rbd1 window_manager.e/option_move_resize_rbd1
99 obj_copy -c $baseline/sunview_move_rbd1 window_manager.e/sunview_move_rbd1
100 obj_copy -c $baseline/x10_move_rbd1 window_manager.e/x10_move_rbd1
101
102 echo ""
103 echo "Creating Inferencer from move_domain_rbd1"
104 echo ""
105 $rbd1 window_manager.e/move_domain_rbd1
106
107 echo ""
108 echo "Creating Inferencer from option_move_resize_rbd1"
109 echo ""
110 $rbd1 window_manager.e/option_move_resize_rbd1
111
112 echo ""
113 echo "Creating Inferencer from sunview_move_rbd1"
114 echo ""
115 $rbd1 window_manager.e/sunview_move_rbd1
116
117 echo ""
118 echo "Creating Inferencer from x10_move_rbd1"
119 echo ""
120 $rbd1 window_manager.e/x10_move_rbd1
```