THE RISK-BASED CAPITAL SIMULATION

APPLICATION

INSTALLATION MANUAL

OFFICE OF FEDERAL HOUSING ENTERPRISE OVERSIGHT

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1. INTRODUCTION

1.1 About This Manual

1.1.1 Audience

This manual is intended for the Unix Systems Administrator and Sybase Database Administrator. It assumes that you have experience installing and configuring Unix applications and that you understand Unix shell scripts.

1.1.2 Manual Overview

This manual lists the minimum hardware and software requirements and provides the installation procedures required to load and run the RBCSIM application.

1.1.3 Additional Documentation

In addition to this manual, the RBCSIM application includes the following printed and on-line documentation:

- The Risk-Based Capital Simulation Application Installation Manual.

- The Risk-Based Capital Simulation Application User Manual.

- The Risk-Based Capital Report Instructions.

- The Risk-Based Capital Stylized Data Set Overview.

- OFHEO Phase 2 Business Rules.

- CreditEnhancementContract-Phase3.

- MultifamilyBusinessRules-Phase3.

- NMI Business Rules-Phase3.

- SingleClassMBSBusRules-Phase3.

- SingleFamilyBusinessRules-Phase3.

- Additional documentation is available at the official OFHEO web site: http://www.ofheo.gov.

1.1.4 Contact Point

All questions regarding the RBCSIM application should be emailed to: rbcquestions@ofheo.gov .

1.2 About OFHEO

The Housing and Community Development Act of 1992, under Title XIII, the Federal Housing Enterprises Financial Safety and Soundness Act of 1992, established the Office of Federal Housing Enterprise Oversight (OFHEO). The primary function of the Office is to perform financial regulation of Fannie Mae and Freddie Mac (collectively referred to as the "Enterprises") to ensure that the Enterprises are adequately capitalized and operating safely, in accordance with the Act.

1.2.1 OFHEO's Mission

OFHEO was required by the Federal Housing Enterprises Financial Safety and Soundness Act of 1992 (1992 Act) to establish minimum and risk-based capital standards as part of its role as safety and soundness regulator. These capital requirements are intended to ensure both Enterprises continue to operate and perform their crucial roles in the secondary mortgage market, keeping constant the flow of funds to mortgage lenders and prospective American homeowners. By ensuring the Enterprises are adequately capitalized, OFHEO minimizes the risk that American taxpayers will ever be asked to pay for losses at these complex financial institutions.

OFHEO evaluates capital adequacy from other perspectives as well. OFHEO's **examination program** conducts continuous, comprehensive examinations of the Enterprises to ensure they are operating under standards of financial safety and soundness. OFHEO's examination of the Enterprises provides a qualitative assessment of capital adequacy. The more direct and quantitative tools are OFHEO's **minimum** and **risk-based capital** standards, which are supplemented with other tests and analyses. OFHEO's minimum capital standard is calculated based on specific percentages for assets and off-balance sheet guarantees. The minimum capital level is therefore determined more by the size of the Enterprise than its specific risks. The risk-based standard, in contrast, requires that Fannie Mae and Freddie Mac each have enough capital to survive prolonged, severe problems in financial and economic markets, as well as management or operational failures. It is directly related to the risks the Enterprises are exposed to in their current business.

1.2.2 The Risk-Based Capital Rule

The risk-based capital regulation meets the specific requirements of the 1992 Act. The rule utilizes a stress test to determine the amount of capital needed to protect against credit and interest rate risks, and requires 30 percent additional capital to protect against unspecified management and operations risk. The regulation itself is the blueprint needed to construct the stress test and calculate the risk-based capital requirement for Freddie Mac and Fannie Mae. It is a detailed description of the stress test allowing the Enterprises and others to essentially replicate the stress test, as required by law.

What is the Stress Test?
OFHEO's risk-based capital standard is based on a 10-year stress test. A stress test measures risk in the context of a company's overall portfolio, including the effectiveness of a company's risk management strategies. While companies often use stress tests for internal risk management, and rating agencies use stress tests to rate companies and securities, OFHEO is among the first financial institution regulators to use its own stress test to determine capital

adequacy.

OFHEO's stress test simulates an Enterprise's financial performance over a 10-year period under severe economic conditions. Key aspects of the severe economic conditions used in OFHEO's stress test are defined in the 1992 Act and further specified in OFHEO's risk-based capital regulation. These conditions include high levels of mortgage defaults, with associated losses and large, sustained movements in interest rates, both increasing (up-rate scenario) and decreasing (down-rate scenario).

OFHEO uses a detailed computer model to simulate each Enterprise's cash flows associated with mortgages and other financial assets and obligations under the severe economic conditions of the stress test. The modeling of incoming and outgoing cash flows captures the risks embedded in those financial assets and obligations and the benefits of the hedges each Enterprise has set in place. To meet OFHEO's risk-based capital standard, each Enterprise must have sufficient capital to support any losses generated under these severe economic conditions plus an additional 30 percent for unspecified management and operations risks. The result is a stringent test of the capital adequacy of each Enterprise.

1.3 Software Identification

RBCSIM 10/31/2007 Release.

1.4 RBCSIM Software Application Overview

The RBCSIM Software is composed of two subsystems: the data validation system and the simulation model. Both subsystems use a Sybase database for storing input data and final results.

1.4.1 Data Validation System

The Data Validation System (DVS) performs a variety of checks to ensure the input data is model ready. The DVS checks for referential integrity, compliance with allowable values and the internal consistency of the fields comprising each record using a variety of 'business rules'. As the simulation model performs a limited set of data quality checks, it is very important that new data sets are validated prior to running them through the simulation model. Running the simulation model with data that has not been validated may result in inaccurate results or application instability.

The DVS is implemented using a combination of Perl and SAS scripts and Sybase stored procedures. Information on installing and configuring the DVS can be found in section 4.2 of this document. Information on running the DVS can be found in section 3.1 of the *Risk-Based Capital Simulation Application User Manual*.

1.4.2 Simulation Model

The simulation model calculates the RBC Capital Requirement. The model is composed of three modules that project cash flows and a module that performs accounting, tax, investment, funding, financial reporting and capital calculations. All of the modules are implemented in C++ and are executed from the command line using a set of configuration files. These configuration files contain both application configuration information as well as policy parameters. More information on the individual modules follows:

Whole Loan Cash Flow. The Whole Loan Cash Flow (WLCF) module projects cash flows for retained and sold whole loans as well as for commitments. The WLCF reads information from the configuration file and input data from the database, performs amortization, default and prepayment calculations and writes its output to a text file as projected cash flows. Sections 3.2 and 3.6 of the RBC Rule provide a detailed discussion of the calculations performed by the WLCF module. The WLCF operates in two modes. One mode produces cash flows for retained and sold whole loans (WLCF); the other mode produces cash flows for commitments (CMT).

Mortgage Related Securities. The Mortgage Related Securities (MRS) module projects cash flows for single class MBS, Mortgage Revenue Bonds (MRBs) and multi-class MBS (e.g. REMICs, Strips, etc.). The MRS module uses the proprietary Intex Solutions, Inc. API to project the cash flows for multi-class MBS. The MRS module reads information from the configuration file and input data from the database, performs amortization, default and prepayment calculations and writes its output to a text file as projected cash flows. Section 3.7 of the RBC Rule provides a detailed discussion of the calculations performed by the MRS module. The MRS operates in three modes. One mode produces cash flows for single class MBS (MBS), the second mode produces cash flows for MRBs (MRB) and the third mode produces cash flows for multi-class MBS (REMIC).

Non-Mortgage Instruments. The Non-Mortgage Instruments (NMI) module projects cash flows for debt instruments, non-mortgage related investments, guaranteed investment contracts, preferred stock, and derivative contracts. The NMI module also performs the Alternative Modeling Treatment (AMT)

calculations. The NMI module uses the proprietary Intex Solutions, Inc. API to project the cash flows for non-mortgage-related ABS (e.g. auto loan deals, credit card deals, etc.). The NMI module reads information from the configuration file and input data from the database, performs financial calculations and writes its output to a text file as projected cash flows. Sections 3.8 and 3.9 of the RBC Rule provide a detailed discussion of the calculations performed by the NMI module. The NMI operates in three modes. One mode produces cash flows for Futures (FUT), the second mode produces cash flows for items subject to AMT (AMT), and the third mode produces cash flows for all other instruments (NMI).

Reporting and Decisions Module. The Reporting and Decisions Module (RDM) implements the accounting, tax, investment, funding, financial reporting and capital calculation processes. The RDM reads information from the configuration file, input data from the database, and the output files from the three cash flow modules, performs financial and accounting calculations and writes output to the database. Sections 3.10 and 3.12 of the RBC Rule provide a detailed discussion of the calculations performed by the RDM module.

Information on installing and configuring the simulation module can be found in section 4.2 of this document. Information on running the simulation model can be found in section 3.2 of the *Risk-Based Capital Simulation Application User Manual*.

2. APPLICATION ENVIRONMENT SUMMARY

2.1 Hardware Requirements

The application platform is a Sun SunFire class server with 12 CPUs, 48 GB of RAM, and 200 GB of disk storage. The software will likely run on smaller configurations, however, OFHEO has not tested other configurations.

If you would like to run the application on other platforms, be aware the application uses some Sun Solaris APIs (e.g. threading), which will need to be replaced with equivalent APIs.

2.2 Operating System Requirements

Sun OS 5.10 (Solaris 10.)

2.3 **Required Third Party Software Components**

Two commercial products from Intex Solutions, Inc. are used as part of the RBCSIM cash flow generation engines:

1. The "Intex CMO Subroutines", which is an API for the generation of cash flows based on user defined interest rates and prepayment models; and
2. The "Intex Deals Database" which is the securities database accessed by the CMO Subroutines.

Within the RBCSIM Software the Intex CMO API is used within two modules:

1. The MRS module (section 3.6.3.2) for the generation of cash flows from REMICs and Strips; and
2. The NMI module (section 3.7.3.3) for the generation of cash flows from asset-backed securities.

Table 2-1: Additional Software Requirements

Software Component	Vendor	Version	Description
Intex[1]	INTEX Solutions, Inc.	V3.1d	API for the generation of cash flows for structured financial instruments.
Standard Template Library	Publicly available: www.stlport.org	STLport-4.5.3	Implementation of the Standard Template Library.
Hyperion System 9 (Brio Reports) (SQR)	Hyperion	V6.1.3	Reporting engine used to produce the final model outputs (financial statements).
PERL	Publicly available: www.cpan.org	5.8.4	Interpreted programming language used to implement some of the data validation programs.
SAS System	SAS Institute	V9.1.3	Statistical software used to implement some of the data validation programs.
SAS Access for Sybase	SAS Institute	V9.1.3	API allowing the SAS System to connect directly to Sybase 12.5 database.
Sybase	Sybase	V12.5.3	Relational Database System
CT-Lib	Sybase	V12.5.3	API and Run-Time Libraries for RDBMS access to Sybase.

2.4 **Application Compilation Requirements**

The application compilation requires Sun C++ 5.8 compiler with the Standard Template Library STLport-4.5.3 (as referenced in Table 2-1 above).

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[1] The Intex libraries need to be in sync with the Intex provided data (in other words, Intex will change the data formats periodically and they do not guarantee backwards compatibility).

3. SYSTEM CONFIGURATION FOR THIRD PARTY SOFTWARE

3.1 Configuring Database System

The database object creation scripts will generate all of the objects needed by the model. The scripts do not include syntax that specifies a database segment for an object's storage. All of the objects will reside on the database's default segment. For this reason, the size of the default segment should be at least 50MB. Given the small size of the stylized data set, a single segment database is all that is needed for the model (see *The Risk-Based Capital Stylized Data Set Overview* for a description of the stylized data set).

However, as you experiment with the model and add more records to the database, you may want to consider tuning the database to optimize the model's runtime performance. Database memory allocation, and storage management are the two principal factors that affect the models performance. In brief, the model is memory intensive. The model reads all of the source data from the database and then begins its processing algorithms. Processing continues in memory until the end when cash flow files are written to the file system and the financial statement is committed to the database. Enough memory must be provided to prevent the system from caching to disk. As more data is added, segments will need to be extended to accommodate the data and its accompanying indexes. Also, additional storage segments could be created in the database to reduce read/write contention on the hard drives. Data can be reallocated to the segments to partition them from their indexes and from other data that is concurrently used. Other applications or the general user community should not have access to the file system volumes that are allocated to the database.

3.2 Configuring Vendor Libraries

All vendor libraries and application components should be installed as per vendor instructions. The Standard Template Library, STLPort should be installed with the static library option.

4. RBCSIM APPLICATION INSTALLATION

4.1 Installation Overview

- Install all required third party components (reference sections 2 and 3).

- Extract contents of tar/zip file to the directory of your choice. Results are as follows:

    o rbc_install.bash

    o source files (Figure 4.2)

    o README file

- Install RBCSIM application.

    o Execute rbc_install.bash –i *current_path/src* -o *current_path*

- Modify _Common.mak in common/build and save as Common.mak.

- Source rbcenv.csh or rbcenv.bash (depending on shell).

- Build and install RBCSIM runtime components.

    o Execute rbc_install.bash –build

rbc_install.bash options:

[-o(ut) Installation Directory]	*: default: $RBC_HOME.*
[-n(ame) Installation Name]	*: default: RBCSIM-V1.0*
[-i(n) Path to input directory]	*: default: $RBC_SRC_HOME*
[-src]	*: Install source files, default: do not install*
[-build]	*: compiles source, default: no build*
[-help]	*: displays usage*
[-menu]	*: use menu option*

Table 4-1: rbcenv.bash

Key	Values {Value Set} Default	Purpose
FSM_HOME	$RBC_HOME/config	Path to location of the envinronment.config file.
RBC_HOME	*Installation Directory*/RBCSIM-V1.0	Location of the current RBCSIM application build.
RBC_SRC_HOME	$RBC_HOME/src	Source file location.
PATH	$PATH:$RBC_HOME/bin: $RBC_HOME/db/database/bin: $RBC_HOME/db/data_validation_system/bin $RBC_SRC_HOME/build/bin	Script and executable file locations.
Format:	bash shell (c shell version also available)	

- Source or include rbcenv.csh or rbcenv.bash options within user profiles. The following changes will occur in the user's working environment:

- o Environment variable, $RBC_HOME, is added

- o Environment variable, $RBC_SRC_HOME, is added.

- o The $PATH environment variable is updated (Reference table 4.1).
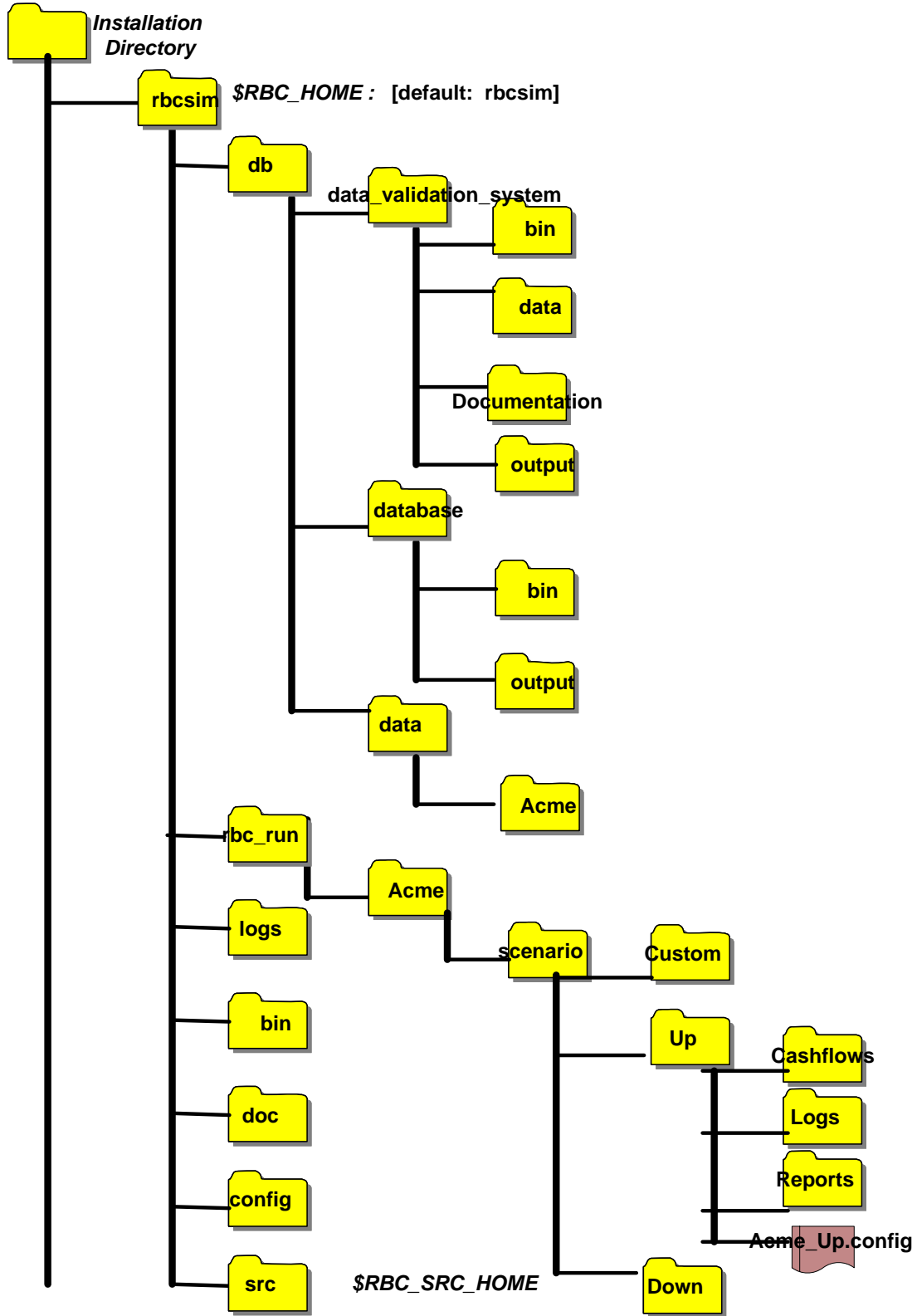
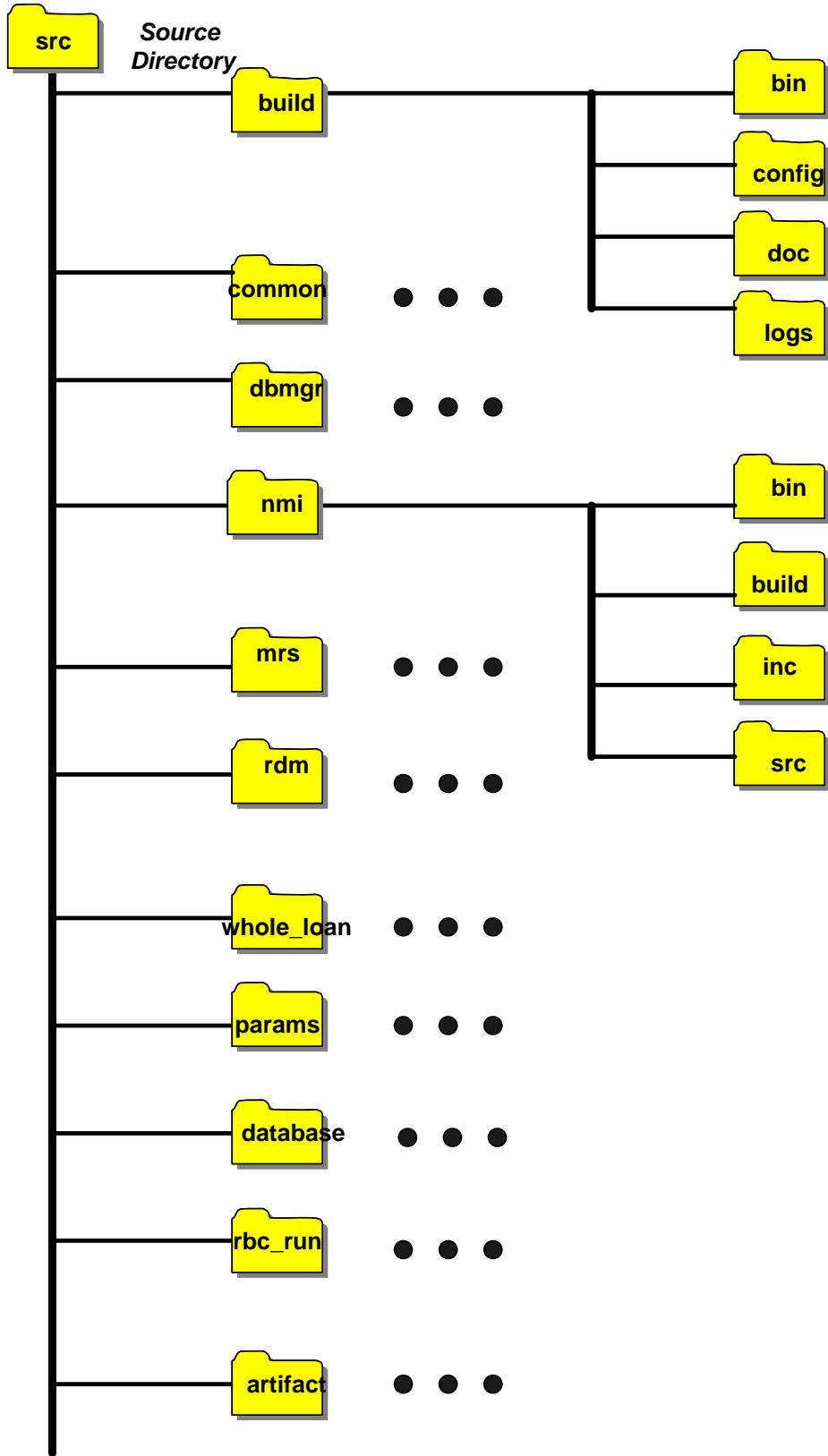**Figure 4-1: RBC Deployment Directory Structure**

Figure 4-2: RBC Source File Directory Structure (Partial)

Figure 4.2 illustrates a high level view of the RBCSIM source file directory structure. It should be noted that the individual directory structures may vary.

4.2 Installation Procedures

This section provides step-by-step details for installing, configuring, and testing the RBCSIM application and database components on a Sun Solaris system.

4.2.1 Installing the RBCSIM Application

The following installation procedures will create the directory structure and runtime components required to run the RBCSIM application. In order to properly build the application, it is assumed that the appropriate development tools are installed and configured properly (See Section 2 of this manual).

Step 1: Extract contents of tar/zip file to the installation directory of your choice.

> Example: *(Assume /usr/apps is the target installation directory and the zip file is in your current working directory.)*

a. Change directory to location of the RBC bundled file.

- **command**: **cp RBCSIM-B20051031-V1.0.tar.gz */usr/apps* – (use **RBCSIM-B20030131-V1.0.***tar.Z,* or **RBCSIM-B20051031-V1.0.***tar.zip* depending on which file you are extracting from)*

- **command**: **cd */usr/apps***

b. Extract RBC application bundle from file using **one** of the following commands.

- **command**: **zcat < RBCSIM-B20051031-V1.0.tar.Z | tar xvf -** *(if extracting RBCSIM-B20051031-V1.0. tar.Z : compress file)*

- **command**: **zcat < RBCSIM-B20051031-V1.0.tar.gz | tar xvf -** *(if extracting RBCSIM-B20051031-V1.0. tar.gz : gzip file)*

- **command**: **gunzip < RBCSIM-B20051031-V1.0.tar.gz | tar xvf -** *(if extracting RBCSIM-B20051031-V1.0. tar.gz : gzip file)*

- **command**: **unzip -p RBCSIM-B20051031-V1.0.tar.zip | tar xvf -** *(if extracting RBCSIM-B20051031-V1.0. tar.zip : zip file)*

c. Validate the new subdirectory.

- **command**: **cd RBCSIM-B20051031-V1.0**

- **command**: **ls -l** *(list files and directories)*

The directory structure should closely match the structure listed in Figures 4.1 and 4.2. In addition, you should see the rbc_install.bash script.

Step 2: Install the RBCSIM application to this location.

a. Set environment variable $RBC_HOME.

- **command**: **export RBC_HOME=*/usr/apps/* RBCSIM-B20051031-V1.0** *(if using Bourne or bash shell)*

- **command**: **setenv RBC_HOME */usr/apps/* RBCSIM-B20051031-V1.0** *(if using c shell)*

b. Execute rbc_install.bash.

- **command**: ./**rbc_install.bash**

Notes: This step updates the rbcenv.bash and rbcenv.csh scripts. Some warnings will occur when the script attempts to copy the binary executables, which do not exist yet.

Step 3: Create Common.mak in common/build.

a. Go-to **src/common/build** directory.

- **command**: **cd src/common/build**

b. copy _Common.mak to Common.mak

- **command**: **cp _Common.mak Common.mak**

c. Be sure you have write permissions on Common.mak before editing.

- **command: chmod 644 Common.mak**

d. Using your favorite editor, replace <_TAGS_> with the appropriate info or path.

Notes: **The Following tags need to be replaced.**
1. <_WS_HOME_>   *(Sun Workshop Location)*
2. <_BRIO_HOME_>   *(Brio Installation Path)*
3. <_STL_HOME_>   *(Standard Template Library Home Directory)*
4. <_DS_QUERY_>   *(For Sybase)*
5. <_SYBASE_>   *(Path to the Installed Sybase)*
6. <_INTEX_INC_>   *(Intex Path)*
7. <_SQR_DATABASE_> *(SQR Database Name)*
8. <_USERNAME_>   *(SQR Database Username)*
9. <_PASSWORD_>   *(SQR Database Password)*

Note: Additionally, the compilation process for the RDM SQR files (BRIO), requires that $SQRDIR be set. If this variable is not set prior to the build, it will be set by appending /syb/bin to the BRIO_HOME entry in the Common.mak. It is recommended that this variable be set in the .login scripts.

Step 4: Update Your Environment.

a. Go to the shell file location.

- **command**: **cd $RBC_HOME/config**

b. Source the appropriate environment file.

- **command: source rbcenv.csh** *(if using cshell)*

- **command: .   rbcenv.bash** *(if using bash, Korn, or Bourne shell)*

Notes: the script sets the following environment variables:

RBC_HOME, FSM_HOME, PATH , and RBC_SRC_HOME. Reference Table 4-1 for details.

Step 5: Build and install RBCSIM runtime components.

- **command: rbc_install.bash –build**

Verify the results by checking the logs in directory *$RBC_HOME/logs*. The following binaries should be generated and placed into $RBC_HOME/bin: ***wlcf, rbc_mrs, rbc_nmi,***

and rdm. If an error occurs, verify that the appropriate settings are in the Common.mak file and SQRDIR has been set (Reference Step 3).

4.2.2 Create, Set-up and Populate the RBCSIM Database and Objects

Follow the instructions below to create, set-up and populate the RBCSIM database. The data structures created support both stylized and custom data sets. When loading custom data sets, relevant loan-group tables referenced in the *Risk Based Capital Report Instructions* need to be populated. In addition, some of the look-up tables may need to be updated as well. For example, house price index (HPI) and interest rate information may need to be updated based on the reporting date of the data. See Section 3.1.2 of the *Risk-Based Capital Simulation Application Technical Reference Manual* for a description of the database components.

These instructions are written for an individual with intermediate level SAS and Sybase SQL experience.

Step 1: Create the RBCSIM database.

    a. Create a database. A minimum of 50 megabytes is recommended to store the stylized data and related objects. The user id used to create the database is the owner, and this user id should be specified when executing the steps below. Alternatively, another user id can be created and granted database owner status. Contact your database administrator for assistance.

Step 2: Create the Risk-Based Capital (RBC) and Report Decision Module (RDM) related database objects.

    a. Create the UNIX environment variable *$RBC_HOME*. The exact location of the script will vary depending upon the installation, but may be found in the following sub-directories. (See Figure 4-1 for reference.):

- **command**: **cd** …/rbcsim/config

- **command**: **source** rbcenv.csh   (C shell)

- **command**: **.** rbcenv.bash   (Korn or Bash shells)

    b. Navigate to directory *$RBC_HOME/db/database/bin* (see Figure 4-1 for reference)
command: **cd** *$RBC_HOME/db/database/bin*

    c. (Optional) using a text editor, update script *RBC_RDM_DDL.sql* to enter segment information and save. If no segment is specified, all objects will reside on the *default* segment. Contact your database administrator for assistance.

    d. Execute script *RBC_RDM_DDL.sql.*
command: **isql –S**<*server_name*> **-i** RBC_RDM_DDL.sql **-o**<*output filename*>   **-U**<*user id*> **-P**<*password*> **-D**<*database*> **-e**
Notes: 1. The user id specified must have "database owner" status
              2. Specify the database created in Section 4.2.2, Step 1

    e. Compare file <*output filename*> created in step d. with the example file specified below for verification. The contents of the files should match.

- *Output filename - $RBC_HOME/db/database/output/RBC_RDM_DDL_example.txt*

Step 3: Populate the data tables.

Note: the following scripts are hard-coded for the stylized data set. It will need to be modified if loading other data sets. Section 2.4.5, Table 2-12 of the *Risk-Based Capital Simulation*

Application Technical Reference Manual contains a listing of the stylized data files and their corresponding data tables.

a. Execute scripts *RBC_RDM_load_Acme_data.bcp* and *RBC_RDM_load_Acme_lookup.bcp* with parameters.
   command:

   1. **./**RBC_RDM_load_Acme_data.bcp *database userid password server* **>** *<output filename1>*

   2. **./**RBC_RDM_load_Acme_lookup.bcp *database userid password server* **>** *<output filename2>*

   Notes:

   1. Execute permission on the file must be set prior to executing the script.
   2. parameters *database, userid, password* and *server* map to:

      a. *database* – name of the database created in Step 1.a

      b. *userid* – user id (the user id specified must have "database owner" status)

      c. *password* – password

      d. *server* – the server on which the database specified above resides

   3. data load errors (if any) are written to files contained in the *$RBC_HOME/db/database/output* directory.

b. If loading stylized data (Acme), compare files *<output filename1>* and *<output filename2>* created in step a. above with the example files specified below for verification. The contents of the files should match. (Note: The clock times may vary).

   - *output filename1 - $RBC_HOME/db/database/output/RBC_RDM_bcp_Acme_data_example.txt*

   - *output filename2 - $RBC_HOME/db/database/output/RBC_RDM_bcp_Acme_lookup_example.txt*

   Notes: Sample output files are provided. Be sure to use different file names, or rename the existing files before executing the scripts.

Step 4: Grant access to the data tables.

a. (Optional) using a text editor, update script *RBC_RDM_grants.sql* to specify a user or group to receive the grants. The script currently grants access to *public*. Contact your database administrator for assistance.

b. execute script *RBC_RDM_grants.sql*
   command: **isql –S**<*server_name*> **-i** RBC_RDM_grants.sql **–o**<*output filename*> **-U**<*user id*> **-P**<*password*> **-D**<*database*> **-e**
   Notes: 1. the user id specified must have "database owner" status
         2. specify the database created in Section 4.2.2, Step 1

c. compare file *<output filename>* created in step b. above with the example file specified below for verification. The contents of the files should match

   - *output filename - $RBC_HOME/db/database/output/RBC_RDM_grants_example.txt*

4.2.3 Set-up and Populate the Data Validation Database Objects

Follow the instructions below to set-up and populate the data validation database. The database objects need to exist in the same database created in Section 4.2.2, Step 1.

Step 1: Create the data tables.

    a. **Note**: If the environment variable *$RBC_HOME* was already set in Section 4.2.2, Step 2.a, the following command does not need to be executed and you may proceed to Step 1.b.

       create the UNIX environment variable *$RBC_HOME*. The exact location of the script will vary depending the installation, but may be found in the following sub-directories. (See Figure 4-1 for reference.):

       command: **source** …/rbcsim/config/rbcenv.csh   (C shell)

       command: …/**./**rbcsim/config/rbcenv.bash   (Korn or Bash shells)

    b. navigate to directory *$RBC_HOME/db/data_validation_system/bin*
       command: cd *$RBC_HOME/db/data_validation_system/bin*

    c. (Optional) using a text editor, update scripts *Data_Validation_System_v1.0_ddl.sql* to enter segment information and save. If no segment is specified, all objects will reside on the *default* segment. Contact your database administrator for assistance.

    d. execute script *Data_Validation_System_v1.0_ddl.sql.*
       command: **isql** –**S**<*server_name*> **-i** Data_Validation_System_v1.0_ddl.sql –**o**<*output filename*> –**U**<*user_id*> **-P**<*password*> **-D**<*database*> **-e**
       Notes: 1. the user id specified must have "database owner" status
              2. specify the database created in Section 4.2.2, Step 1

    e. compare file <*output filename*> created in step d. above with the example file specified below for verification. The contents of the files should match.

       • *output filename - $RBC_HOME/db/data_validation_system/output/ DVS_v1.0_ddl_example.txt*

Step 2: Populate the "*validaton_rule_lookup*" static table.

    a. execute script *DVS_load_data.bcp* with parameters*.*
       command: **./**DVS_load_data.bcp *database userid   password server* **>** <*output filename*>
       Notes:
       1. execute permission on the file must be set prior to executing the script.
       2. parameters *database, userid, password* and *server* map to:

           a. *database* – name of the database (specify the database created in Sect. 4.2.2, Step 1)

           b. *userid* – user id (the user id specified must have "database owner" status)

           c. *password* – password

           d. *server* – the server on which the database specified above resides

       3. data load errors (if any) are written to files contained in the *$RBC_HOME/db/data_validation_system/output* directory

    b. compare file <*output filename*> created in step a. above with the example file specified below for verification. The contents of the files should match.

       • *output filename - $RBC_HOME/db/data_validation_system/output/DVS_bcp_example.txt*

Step 3: Create stored procedures.

Note: The stored procedures contain Transact-SQL code used to perform primary key, referential integrity and ad-hoc business rule checks on the data. These procedures are executed as part of the data validation process.

a. (Optional) using a text editor, update script *DVS_business_rules.pro* to enter the segment information and save. If no segment is specified, all of the stored procedures will reside on the *default* segment. Contact your database administrator for assistance.

b. execute script *DVS_business_rules.pro*
   command: **isql –S**<*server_name*> **-i** DVS_business_rules.pro **–o**<*output filename*>   **-U**<*user id*> **-P**<*password*> **-D**<*database*> **-e**
   Notes: 1. the user id specified must have "database owner" status
                2. specify the database created in Section 4.2.2, Step 1

c. compare file <*output filename*> created in step b. above with the example file specified below for verification. The contents of the files should match.

   - *output filename - $RBC_HOME/db/data_validation_system/output/ DVS_business_rules_example.txt*

Step 4: Grant access to the data tables and procedures.

a. (Optional) using a text editor, update script *DVS_grants.sql* to specify a user or group to receive the grants. The script currently grants access to *public*. Contact your database administrator for assistance.

b. execute script *DVS_grants.sql*.
   command: **isql –S**<*server_name*> **-i** DVS_grants.sql **–o**<*output filename*> **-U**<*user id*> **-P**<*password*> **-D**<*database*> **-e**
   Notes: 1. the user id specified must have "database owner" status
                2. specify the database created in Section 4.2.2, Step 1

c. compare file <*output filename*> created in step b. above with the example file specified below for verification. The contents of the files should match.

   - *output filename - $RBC_HOME/db/data_validation_system/output/ DVS_grants_example.txt*

Step 5: Create the SAS Format Library.

Note: The SAS Format Library contains the allowable values for all of the columns defined in the *Risk Based Capital Report Instructions*. It is used in the data validation process to ensure all of the values reported are within acceptable limits.

a. using a text editor, update program *RBC_Report_Instr_Format_Lib.sas* to specify the location for permanent storage. The position to enter this information is specified in the SAS program.

b. execute program *RBC_Report_Instr_Format_Lib.sas*.
   command: /<SAS directory>/sas *RBC_Report_Instr_Format_Lib.sas*

c. Note: file 'formats.sas7bcat' is created in the directory specified. (Note: the actual name of this SAS Format Library may vary based on the version of SAS used.)

d. compare file *RBC_Report_Instr_Format_Lib.log* created in step b. above with the example file specified below for verification. The contents of the files should match with the possible exception of the location of the SAS library and SAS generated messages.

RBC_Report_Instr_Format_Lib.log -
$RBC_HOME/db/data_validation_system/output/RBC_format_lib_example.txt

4.2.4 Configuring the Run

The following instructions will configure a user's environment for running the RBCSIM application. This document deals specifically with the configuration requirements for running the version of the software, database and data provided with this distribution. For more general information regarding environment configuration, see *The Risk-Based Capital Simulation Application User Manual*.

Executing the model requires a compiled instance of the RBCSIM application, an instance of the RBCSIM database, a properly defined "RBC_HOME" environment variable, access to the "rbc_execute.bash" script file, application configuration files – "environment.config" and one or more module specific configuration files and, optionally, a properly defined "FSM_HOME" environment variable.

> **Step 1: Install an instance of the RBCSIM application.**
>
> > This step is described in section 4.2.1 above
>
>
> **Step 2: Create and populate the RBCSIM database.**
>
> > This step is described in section 4.2.2 above.
>
>
> **Step 3: Define RBC Environment**
>
> > Execute the script as described in Step 4, Section 4.2.1, above. Define the environment variable "DS_QUERY" and set it equal to the name of your Database Server.
> >
> > **Notes:** rbc_execute.bash should be located in $RBC_HOME/bin directory.
>
>
> **Step 4: Confirm that the "environment .config" and "ACME[2]" application configuration files exist in the proper directories and edit the site-specific configuration parameters.**
>
> > a.   Validate Acme_Up Run Set Directory Contents
> >
> > - **command: cd $RBC_HOME/rbc_run/Acme/scenario/Up**
> > - **command: ls *.config**
> >
> > The following file should be listed:
> >
> > > Acme_Up.config
> >
> > b.   Validate Acme_Down Run Set Directory Contents
> >
> > - **command: cd $RBC_HOME/rbc_run/Acme/scenario/Down**
> > - **command: ls *.config**
> >
> > The following file should be listed:
> >
> > > Acme_Down.config

---

[2] Acme is the name of the firm represented by the stylized data set.

    c.   Validate environment.config file.

- **command: cd $RBC_HOME /config**

- **command: ls *.config**

The following file should be listed:

       environment.config

Note: Edit this file by changing the following values: "**databaseServer**" should be modified to be equal to the name of your Database Server; and the entries for "**databaseName**" and "**NMIDatabaseName**" should be modified to be equal to the name of your database.

4.2.5 Testing The Software

The following instructions will perform a full run of the RBCSIM application using the database and data provided with the distribution. It is assumed that all the steps described in sections 4.2.1, 4.2.2, 4.2.3 and 4.2.4 have already been executed prior to this one. The "rbc_execute.bash" script is used to run the model. This document deals specifically with the steps necessary to run with the software, database and data provided with this distribution. For a more detailed description of how to use the "rbc_execute.bash" script, see *The Risk-Based Capital Simulation Application User Manual*.

A "run" of the model is performed on a "Run Set". There are two Run Sets included with the distribution: "Acme_Up" and "Acme_Down". The "Acme_Up" Run Set is configured to perform a run of the model using the stylized data set (Acme) and an up-rate interest rate scenario. The "Acme_Down" Run Set is also configured with the stylized data set (Acme) but using a down-rate interest rate scenario. A full run of the model would require using both Run Sets.

    Step 1: Execute the "Acme_Up" Run Set

- **command: rbc_execute.bash -u** *database-login-name* **-s Up Acme_Up.config**

Where: rbc_execute.bash is the command

    -u database-login-name is your database username

    -s Up, is the Run Set scenario to execute

    Acme_Up.config is the configuration file

Wait until the run finishes and then continue with step 2.

    Step 2: Execute the "Acme_Down" Run Set

- **command: rbc_execute.bash –u** *database-login-name* **–s Down Acme_Down.config**

Once again, rbc_execute.bash is the command

    -u database-login-name is your database username

    -s Down, is the Run Set scenario to execute

    Acme_Down.config is the configuration file

Wait until the run finishes and then continue with step 3.

Step 3: Compare the generated results against the results provided in the distribution

Once the runs are completed, compare the results generated by the run against those provided with the distribution. Using the provided configuration files, results from this run will be written to the following directories:

For the Acme_Up runs -

$RBC_HOME/rbc_run/Acme/scenario/Up/Cashflows   - all cashflow files

$RBC_HOME/rbc_run/Acme/scenario/Up/Reports   - RDM reports

$RBC_HOME/rbc_run/Acme/scenario/Up/Logs   - logs generated by the modules

For the Acme_Down runs -

$RBC_HOME/rbc_run/Acme/scenario/Down/Cashflows   - all cashflow files

$RBC_HOME/rbc_run/Acme/scenario/Down/Reports   - RDM reports

$RBC_HOME/rbc_run/Acme/scenario/Down/Logs   - logs generated by the modules

Results provided with the distribution are located in the following directories:

For the Acme_Up runs -

$RBC_HOME/src/rbc_run/Acme/scenario/Up/Cashflows   - all cashflow files

$RBC_HOME/src/rbc_run/Acme/scenario/Up/Reports   - RDM reports

$RBC_HOME/src/rbc_run/Acme/scenario/Up/Logs   - logs generated by the modules

For the Acme_Down runs -

$RBC_HOME/src/rbc_run/Acme/scenario/Down/Cashflows - all cashflow files

$RBC_HOME/src/rbc_run/Acme/scenario/Down/Reports   - RDM reports

$RBC_HOME/src/rbc_run/Acme/scenario/Down/Logs   - logs generated by the modules

5. RBCSIM APPLICATION INVENTORY LIST

Table 5-1: RBCSIM Application Source File Inventory List

Relative File/Directory Path from $RBC_HOME
bin/
bin/rbc_execute.bash
logs/
doc/
doc/RBC-SIM Application Installation Manual.pdf
doc/ReleaseNotes2002-10-31.pdf
config/
config/rbcenv.csh
config/rbcenv.bash
config/environment.config
src/
src/artifact/
src/artifact/cm/
src/artifact/cm/B020731-Merge.rpt
src/artifact/doc/
src/artifact/doc/ReleaseNotes2002-10-31.pdf
src/artifact/report_instructions/
src/artifact/report_instructions/CHANGE_LOG_Report_Instruct_10_31_02.pdf
src/artifact/report_instructions/REPORT_INSTRUCTIONS_10-31-02.pdf
src/artifact/manuals/
src/artifact/manuals/RBC-SIM Application Installation Manual.pdf
src/artifact/model/
src/build/
src/build/bin/
src/build/bin/Makefile
src/build/bin/rbc_install.bash
src/build/bin/rbc_execute.bash
src/build/bin/rbc_build.bash
src/build/config/
src/build/config/environment.config
src/build/config/rbcenv.bash
src/build/config/rbcenv.csh
src/build/config/acme_dn.config
src/build/config/acme_up.config
src/build/doc/
src/build/doc/README
src/build/logs/
src/build/logs/rbc_install.log
src/build/logs/rbc_build.log
src/common/
src/common/build/
src/common/build/Makefile

Relative File/Directory Path from $RBC_HOME
src/common/build/_Common.mak
src/common/inc/
src/common/inc/comIdxCodeDef.h
src/common/inc/comCumnorm.h
src/common/inc/comIRR.h
src/common/inc/comMutex.h
src/common/inc/comRbcEnum.h
src/common/inc/Encryption.h
src/common/inc/LogMsg.h
src/common/inc/Logger.h
src/common/inc/Message.h
src/common/inc/MessageTable.h
src/common/inc/Param_IniFile.h
src/common/inc/Parameters.h
src/common/inc/ParamHandle.h
src/common/inc/ParamKeys.h
src/common/inc/ParamSection.h
src/common/inc/RBC_MessageTable.h
src/common/inc/SigHandler.h
src/common/inc/TimeDate.h
src/common/src/
src/common/src/comIdxCodeDef.cpp
src/common/src/comCumnorm.cpp
src/common/src/comIRR.cpp
src/common/src/comMutex.cpp
src/common/src/comRbcEnum.cpp
src/common/src/comm.cpp
src/common/src/Encryption.cpp
src/common/src/encrypt.cpp
src/common/src/LogMsg.cpp
src/common/src/Logger.cpp
src/common/src/Message.cpp
src/common/src/MessageTable.cpp
src/common/src/Param_IniFile.cpp
src/common/src/Parameters.cpp
src/common/src/ParamHandle.cpp
src/common/src/ParamKeys.cpp
src/common/src/ParamSection.cpp
src/common/src/RBC_MessageTable.cpp
src/common/src/SigHandler.cpp
src/common/src/TimeDate.cpp
src/common/lib/
src/common/bin/
src/rbc.database/

Relative File/Directory Path from $RBC_HOME	Relative File/Directory Path from $RBC_HOME
src/dbmgr/	src/mrs/inc/MrsCashFlow.h
src/dbmgr/build/	src/mrs/inc/MrsMgr.h
src/dbmgr/build/Makefile	src/mrs/inc/Remic.h
src/dbmgr/inc/	src/mrs/inc/cmoSubr.h
src/dbmgr/inc/DbRecordSet.h	src/mrs/inc/mrsAggregationBucket.h
src/dbmgr/inc/DbRecord.h	src/mrs/inc/rbcExplanatoryVariables.h
src/dbmgr/inc/FSError.hpp	src/mrs/src/
src/dbmgr/inc/DbToken.h	src/mrs/src/AdjSecurity.cpp
src/dbmgr/inc/ImplDbMgr.h	src/mrs/src/Amortization.cpp
src/dbmgr/inc/InterfaceDbMgr.h	src/mrs/src/FixedSecurity.cpp
	src/mrs/src/MRS.cpp
src/dbmgr/src/	src/mrs/src/Mbs.cpp
src/dbmgr/src/DbRecordSet.cpp	src/mrs/src/MbsCashFlow.cpp
src/dbmgr/src/DbRecord.cpp	src/mrs/src/MbsDefPrepay.cpp
src/dbmgr/src/DbToken.cpp	src/mrs/src/Mrb.cpp
src/dbmgr/src/FSError.cpp	src/mrs/src/MrsCashFlow.cpp
src/dbmgr/src/ImplDbMgr.cpp	src/mrs/src/MrsMgr.cpp
src/dbmgr/src/InterfaceDbMgr.cpp	src/mrs/src/Remic.cpp
src/dbmgr/src/test.cpp	src/mrs/src/cmoSubr.cpp
src/dbmgr/lib/	src/mrs/src/mrsDriver.cpp
src/ir_pv/	src/mrs/src/mrsAggregationBucket.cpp
src/ir_pv/build/	src/mrs/src/rbcExplanatoryVariables.cpp
src/ir_pv/build/Makefile	src/mrs/bin/
src/ir_pv/inc/	src/nmi/
src/ir_pv/inc/irpvIntrRate.h	src/nmi/build/
src/ir_pv/inc/irpvMgr.h	src/nmi/build/Makefile
src/ir_pv/inc/irpvPV.h	src/nmi/inc/
src/ir_pv/src/	src/nmi/inc/NMIParameterKeys.h
src/ir_pv/src/irpvMgr.cpp	src/nmi/inc/all_mort.h
src/ir_pv/src/irpv.cpp	src/nmi/inc/amort.h
src/ir_pv/src/irpvIntrRate.cpp	src/nmi/inc/amt_debt.h
src/ir_pv/src/irpvPV.cpp	src/nmi/inc/arm_coupon.h
src/ir_pv/lib/	src/nmi/inc/bond_cash.h
src/ir_pv/lib/irpv.a	src/nmi/inc/cash_flow.h
src/ir_pv/bin/	src/nmi/inc/cash_gen_monthly.h
src/mrs/	src/nmi/inc/cashflow_array.h
src/mrs/build/	src/nmi/inc/cmocashflow.h
src/mrs/build/Makefile	src/nmi/inc/cmosubr.h
src/mrs/inc/	src/nmi/inc/corp_debt.h
src/mrs/inc/FixedSecurity.h	src/nmi/inc/cusip_intex.h
src/mrs/inc/AdjSecurity.h	src/nmi/inc/data_element.h
src/mrs/inc/Amortization.h	src/nmi/inc/date.h
src/mrs/inc/IntRtIdxDefs.h	src/nmi/inc/day_count.h
src/mrs/inc/MRS.h	src/nmi/inc/debt_coupon.h
src/mrs/inc/MRSdefs.h	src/nmi/inc/definedate.h
src/mrs/inc/Mbs.h	src/nmi/inc/definedebt.h
src/mrs/inc/MbsCashFlow.h	src/nmi/inc/enum.h
src/mrs/inc/MbsDefPrepay.h	src/nmi/inc/error.h
src/mrs/inc/Mrb.h	src/nmi/inc/file_gen.h

Relative File/Directory Path from $RBC_HOME	Relative File/Directory Path from $RBC_HOME
src/nmi/inc/finance.h	src/nmi/src/fut_opt_utl.cc
src/nmi/inc/fix_coupon.h	src/nmi/src/mbs_cashflow.cc
src/nmi/inc/fixincome.h	src/nmi/src/math.cc
src/nmi/inc/float_coupon.h	src/nmi/src/gse_code.cc
src/nmi/inc/fut_opt.h	src/nmi/src/gse_data.cc
src/nmi/inc/fut_opt_utl.h	src/nmi/src/gsebind.cc
src/nmi/inc/gse.h	src/nmi/src/gsectlib.cc
src/nmi/inc/gse_code.h	src/nmi/src/index_store.cc
src/nmi/inc/gse_org_data.h	src/nmi/src/intex.cc
src/nmi/inc/gse_syb_define.h	src/nmi/src/intex_cashflow.cc
src/nmi/inc/gse_syb_table.h	src/nmi/src/junk_store.cc
src/nmi/inc/gsectlib.h	src/nmi/src/liab.report
src/nmi/inc/index_enum.h	src/nmi/src/liab_choice.cc
src/nmi/inc/index_store.h	src/nmi/src/mbs_prepay.cc
src/nmi/inc/intex.h	src/nmi/src/option_eval.cc
src/nmi/inc/intex_cashflow.h	src/nmi/src/step_coupon.cc
src/nmi/inc/junk_store.h	src/nmi/src/strroutine.cc
src/nmi/inc/lia_enum.h	src/nmi/src/syb_common.cc
src/nmi/inc/liab_choice.h	src/nmi/src/syb_set_col.cc
src/nmi/inc/mapping.h	src/nmi/src/unamort.cc
src/nmi/inc/mbs_cashflow.h	src/nmi/bin/
src/nmi/inc/mbs_prepay.h	src/params/
src/nmi/inc/mort_enum.h	src/params/build/
src/nmi/inc/option_eval.h	src/params/build/Makefile
src/nmi/inc/prin_enum.h	src/params/inc/
src/nmi/inc/remic_portfolio.h	src/params/inc/ParametersFileLoader.h
src/nmi/inc/step_coupon.h	src/params/inc/ParameterKeys.h
src/nmi/inc/syb_common.h	src/params/inc/Parameters.h
src/nmi/inc/typedef.h	src/params/src/
src/nmi/inc/unamort.h	src/params/src/ParameterKeys.cpp
src/nmi/src/	src/params/src/Parameters.cpp
src/nmi/src/amt_debt.cc	src/params/src/TestInstrID.cpp
src/nmi/src/amort.cc	src/params/src/ParametersFileLoader.cpp
src/nmi/src/cash_gen_monthly.cc	src/params/src/TestParameters.cpp
src/nmi/src/arm_coupon.cc	src/params/src/TestParametersFileLoader.cpp
src/nmi/src/bond_cash.cc	src/params/lib/
src/nmi/src/float_coupon.cc	src/params/lib/params.a
src/nmi/src/cmosubr.cc	src/params/bin/
src/nmi/src/corp_debt.cc	src/rdm/
src/nmi/src/cusip_intex.cc	src/rdm/Common/
src/nmi/src/date.cc	src/rdm/Common/inc/
src/nmi/src/day_count.cc	src/rdm/Common/inc/RDMParameterKeys.h
src/nmi/src/debt_coupon.cc	src/rdm/Common/inc/BatchMgr.hpp
src/nmi/src/error.cc	src/rdm/Common/inc/BoundError.hpp
src/nmi/src/file_gen.cc	src/rdm/Common/inc/CommandArg.hpp
src/nmi/src/finance.cc	src/rdm/Common/inc/ProfileMgr.hpp
src/nmi/src/fix_coupon.cc	src/rdm/Common/inc/Profile.hpp
src/nmi/src/fixincome.cc	src/rdm/Common/inc/ReportError.hpp
src/nmi/src/fut_opt.cc	src/rdm/Common/inc/RdmDefs.hpp

Relative File/Directory Path from $RBC_HOME	Relative File/Directory Path from $RBC_HOME
src/rdm/Common/inc/TentativeDividends.hpp	src/rdm/Decisions/source/EndOfPeriod.cpp
src/rdm/Common/inc/ReportMgr.hpp	src/rdm/Decisions/source/TaxCalculator.cpp
src/rdm/Common/inc/ReportProfile.hpp	src/rdm/Decisions/source/Liquidity.cpp
src/rdm/Common/inc/RunProfile.hpp	src/rdm/Decisions/source/Makefile
src/rdm/Common/inc/Thread.hpp	src/rdm/Decisions/source/Taxes.cpp
src/rdm/Common/inl/	src/rdm/Decisions/source/UniqueMonthOneAccountingEntries.cpp
src/rdm/Common/inl/ReportProfile.inl	src/rdm/FI/
src/rdm/Common/inl/BatchMgr.inl	src/rdm/FI/inc/
src/rdm/Common/inl/CommandArg.inl	src/rdm/FI/inc/AssetDebenture.hpp
src/rdm/Common/inl/Profile.inl	src/rdm/FI/inc/CashFlow.hpp
src/rdm/Common/inl/RunProfile.inl	src/rdm/FI/inc/AssetDiscountInstrument.hpp
src/rdm/Common/source/	src/rdm/FI/inc/FinancialInstrument.hpp
src/rdm/Common/source/ReportError.cpp	src/rdm/FI/inc/FinancialInstrumentFactory.hpp
src/rdm/Common/source/BatchMgr.cpp	src/rdm/FI/inc/InterfaceMgr.hpp
src/rdm/Common/source/BoundError.cpp	src/rdm/FI/inc/LiabDebenture.hpp
src/rdm/Common/source/CommandArg.cpp	src/rdm/FI/inc/LiabDiscountInstrument.hpp
src/rdm/Common/source/Makefile	src/rdm/FI/inc/MortgageSecurity.hpp
src/rdm/Common/source/Profile.cpp	src/rdm/FI/inc/NMI_CashFlow.hpp
src/rdm/Common/source/ProfileMgr.cpp	src/rdm/FI/inc/PreferredDividend.hpp
src/rdm/Common/source/TentativeDividends.cpp	src/rdm/FI/inc/RM_CashFlow.hpp
src/rdm/Common/source/ReportMgr.cpp	src/rdm/FI/inc/RetainedMortgage.hpp
src/rdm/Common/source/ReportProfile.cpp	src/rdm/FI/inc/SM_CashFlow.hpp
src/rdm/Common/source/RunProfile.cpp	src/rdm/FI/inc/SoldMortgage.hpp
src/rdm/Common/source/Thread.cpp	src/rdm/FI/inc/SwaptionCashSettlement.hpp
src/rdm/Decisions/	src/rdm/FI/inc/SubordinatedDebt.hpp
src/rdm/Decisions/inc/	src/rdm/FI/inc/Swap.hpp
src/rdm/Decisions/inc/InterestRates.hpp	src/rdm/FI/source/
src/rdm/Decisions/inc/Funding.hpp	src/rdm/FI/source/AssetDebenture.cpp
src/rdm/Decisions/inc/AdministrativeExpensesCashFlow.hpp	src/rdm/FI/source/CashFlow.cpp
src/rdm/Decisions/inc/CapitalClassification.hpp	src/rdm/FI/source/Makefile
src/rdm/Decisions/inc/CommonShareRepurchase.hpp	src/rdm/FI/source/AssetDiscountInstrument.cpp
src/rdm/Decisions/inc/DebtMaturityStructure.hpp	src/rdm/FI/source/FinancialInstrument.cpp
src/rdm/Decisions/inc/Dividends.hpp	src/rdm/FI/source/FinancialInstrumentFactory.cpp
src/rdm/Decisions/inc/EndOfPeriod.hpp	src/rdm/FI/source/InterfaceMgr.cpp
src/rdm/Decisions/inc/TaxCalculator.hpp	src/rdm/FI/source/LiabDebenture.cpp
src/rdm/Decisions/inc/Liquidity.hpp	src/rdm/FI/source/LiabDiscountInstrument.cpp
src/rdm/Decisions/inc/Taxes.hpp	src/rdm/FI/source/NMI_CashFlow.cpp
src/rdm/Decisions/inc/UniqueMonthOneAccountingEntries.hpp	src/rdm/FI/source/MortgageSecurity.cpp
src/rdm/Decisions/inl/	src/rdm/FI/source/PreferredDividend.cpp
src/rdm/Decisions/inl/CapitalClassification.inl	src/rdm/FI/source/RM_CashFlow.cpp
src/rdm/Decisions/inl/TaxCalculator.inl	src/rdm/FI/source/RetainedMortgage.cpp
src/rdm/Decisions/source/	src/rdm/FI/source/SM_CashFlow.cpp
src/rdm/Decisions/source/InterestRates.cpp	src/rdm/FI/source/SoldMortgage.cpp
src/rdm/Decisions/source/Funding.cpp	src/rdm/FI/source/SubordinatedDebt.cpp
src/rdm/Decisions/source/AdministrativeExpensesCashFlow.cpp	src/rdm/FI/source/Swap.cpp
src/rdm/Decisions/source/CapitalClassification.cpp	src/rdm/FI/source/SwaptionCashSettlement.cpp
src/rdm/Decisions/source/CommonShareRepurchase.cpp	src/rdm/FS/
src/rdm/Decisions/source/DebtMaturityStructure.cpp	src/rdm/FS/inc/
src/rdm/Decisions/source/Dividends.cpp	src/rdm/FS/inc/AdministrativeExpenses.hpp

Relative File/Directory Path from $RBC_HOME	Relative File/Directory Path from $RBC_HOME
src/rdm/FS/inc/AnalysisReport.hpp	src/rdm/FS/inl/AdministrativeExpenses.inl
src/rdm/FS/inc/Assets.hpp	src/rdm/FS/inl/AnalysisReport.inl
src/rdm/FS/inc/BalanceSheet.hpp	src/rdm/FS/inl/Assets.inl
src/rdm/FS/inc/CapitalStatement.hpp	src/rdm/FS/inl/BalanceSheet.inl
src/rdm/FS/inc/CashFinancing.hpp	src/rdm/FS/inl/CapitalStatement.inl
src/rdm/FS/inc/CashInvesting.hpp	src/rdm/FS/inl/CashFinancing.inl
src/rdm/FS/inc/CashOperating.hpp	src/rdm/FS/inl/CashInvesting.inl
src/rdm/FS/inc/CashflowStatement.hpp	src/rdm/FS/inl/CashOperating.inl
src/rdm/FS/inc/CreditForLoanLosses.hpp	src/rdm/FS/inl/CashflowStatement.inl
src/rdm/FS/inc/DebtInstruments.hpp	src/rdm/FS/inl/CreditForLoanLosses.inl
src/rdm/FS/inc/DebtSecurities.hpp	src/rdm/FS/inl/DebtInstruments.inl
src/rdm/FS/inc/Derivatives.hpp	src/rdm/FS/inl/Derivatives.inl
src/rdm/FS/inc/DerivativesWrap.hpp	src/rdm/FS/inl/DerivativesWrap.inl
src/rdm/FS/inc/EarningRatios.hpp	src/rdm/FS/inl/EarningRatios.inl
src/rdm/FS/inc/IncomeStatement.hpp	src/rdm/FS/inl/FinancialStatement.inl
src/rdm/FS/inc/GuaranteeFee.hpp	src/rdm/FS/inl/InterestRateSwaps.inl
src/rdm/FS/inc/FinancialStatement.hpp	src/rdm/FS/inl/IncomeTaxes.inl
src/rdm/FS/inc/FinancialStatementMgr.hpp	src/rdm/FS/inl/FinancialStatementMgr.inl
src/rdm/FS/inc/FinancialStatementsKeyInfo.hpp	src/rdm/FS/inl/FinancialStatementsKeyInfo.inl
src/rdm/FS/inc/IncomeOnNonMortgageInvestments.hpp	src/rdm/FS/inl/GuaranteeFee.inl
src/rdm/FS/inc/IncomeTaxes.hpp	src/rdm/FS/inl/IncomeOnNonMortgageInvestments.inl
src/rdm/FS/inc/InterestIncome.hpp	src/rdm/FS/inl/IncomeStatement.inl
src/rdm/FS/inc/InterestOnDebtSecurities.hpp	src/rdm/FS/inl/InterestIncome.inl
src/rdm/FS/inc/InterestRateSwaps.hpp	src/rdm/FS/inl/MortgagePortfolioGuranteeFee.inl
src/rdm/FS/inc/Investments.hpp	src/rdm/FS/inl/InterestOnDebtSecurities.inl
src/rdm/FS/inc/Liabilities.hpp	src/rdm/FS/inl/Investments.inl
src/rdm/FS/inc/LossPortfolio.hpp	src/rdm/FS/inl/Liabilities.inl
src/rdm/FS/inc/MortgageLossPortfolio.hpp	src/rdm/FS/inl/LossPortfolio.inl
src/rdm/FS/inc/MortgagePortfolioGuranteeFee.hpp	src/rdm/FS/inl/MortgageLossPortfolio.inl
src/rdm/FS/inc/MortgagePortfolioSold.hpp	src/rdm/FS/inl/ProcessMgr.inl
src/rdm/FS/inc/ProvisionForMortgageLossesWrap.hpp	src/rdm/FS/inl/MortgagePortfolioInterestIncome.inl
src/rdm/FS/inc/MortgagePortfolioInterestIncome.hpp	src/rdm/FS/inl/ProvisionForMortgageLossesWrap.inl
src/rdm/FS/inc/MortgagePortfolioRetained.hpp	src/rdm/FS/inl/MortgagePortfolioRetained.inl
src/rdm/FS/inc/MortgageProductTypes.hpp	src/rdm/FS/inl/MortgagePortfolioSold.inl
src/rdm/FS/inc/MultiFamily.hpp	src/rdm/FS/inl/MortgageProductTypes.inl
src/rdm/FS/inc/MultiFamilyLossPortfolio.hpp	src/rdm/FS/inl/MultiFamily.inl
src/rdm/FS/inc/NonMortgageInvestments.hpp	src/rdm/FS/inl/MultiFamilyLossPortfolio.inl
src/rdm/FS/inc/OtherAssets.hpp	src/rdm/FS/inl/NonMortgageInvestments.inl
src/rdm/FS/inc/OtherLiabilities.hpp	src/rdm/FS/inl/OtherAssets.inl
src/rdm/FS/inc/OtherRatios.hpp	src/rdm/FS/inl/OtherLiabilities.inl
src/rdm/FS/inc/PeriodicFinancialStatement.hpp	src/rdm/FS/inl/OtherRatios.inl
src/rdm/FS/inc/ProcessMgr.hpp	src/rdm/FS/inl/PeriodicFinancialStatement.inl
src/rdm/FS/inc/ProvisionForMortgageLosses.hpp	src/rdm/FS/inl/ProvisionForMortgageLosses.inl
src/rdm/FS/inc/SingleFamilyLossPortfolio.hpp	src/rdm/FS/inl/SingleFamilyLossPortfolio.inl
src/rdm/FS/inc/SingleFamilyMortgageData.hpp	src/rdm/FS/inl/SingleFamilyMortgageData.inl
src/rdm/FS/inc/YieldsAndCosts.hpp	src/rdm/FS/inl/StockHolderEquity.inl
src/rdm/FS/inc/StartingPosition.hpp	src/rdm/FS/inl/YieldsAndCosts.inl
src/rdm/FS/inc/StockHolderEquity.hpp	src/rdm/FS/source/
src/rdm/FS/inl/	src/rdm/FS/source/AdministrativeExpenses.cpp

Relative File/Directory Path from $RBC_HOME	Relative File/Directory Path from $RBC_HOME
src/rdm/FS/source/AnalysisReport.cpp	src/rdm/GUI/
src/rdm/FS/source/Assets.cpp	src/rdm/GUI/source/
src/rdm/FS/source/BalanceSheet.cpp	src/rdm/GUI/source/CashFileInfo.cpp
src/rdm/FS/source/CapitalStatement.cpp	src/rdm/GUI/source/CashFileInfo.hpp
src/rdm/FS/source/CashFinancing.cpp	src/rdm/GUI/source/Makefile
src/rdm/FS/source/CashInvesting.cpp	src/rdm/GUI/source/frcmMain.cpp
src/rdm/FS/source/CashOperating.cpp	src/rdm/Journal/
src/rdm/FS/source/CashflowStatement.cpp	src/rdm/Journal/inc/
src/rdm/FS/source/CreditForLoanLosses.cpp	src/rdm/Journal/inc/CapitalEntry.hpp
src/rdm/FS/source/DebtInstruments.cpp	src/rdm/Journal/inc/AssetEntry.hpp
src/rdm/FS/source/DebtSecurities.cpp	src/rdm/Journal/inc/ExpenseEntry.hpp
src/rdm/FS/source/Derivatives.cpp	src/rdm/Journal/inc/Factory.hpp
src/rdm/FS/source/DerivativesWrap.cpp	src/rdm/Journal/inc/Journal.hpp
src/rdm/FS/source/EarningRatios.cpp	src/rdm/Journal/inc/JournalEntry.hpp
src/rdm/FS/source/IncomeStatement.cpp	src/rdm/Journal/inc/JournalMgr.hpp
src/rdm/FS/source/GuaranteeFee.cpp	src/rdm/Journal/inc/LiabilityEntry.hpp
src/rdm/FS/source/FinancialStatement.cpp	src/rdm/Journal/inc/MonthlyJournal.hpp
src/rdm/FS/source/FinancialStatementMgr.cpp	src/rdm/Journal/inc/RevenueEntry.hpp
src/rdm/FS/source/FinancialStatementsKeyInfo.cpp	src/rdm/Journal/inc/OffBalanceSheetAssetEntry.hpp
src/rdm/FS/source/Makefile	src/rdm/Journal/inl/
src/rdm/FS/source/IncomeOnNonMortgageInvestments.cpp	src/rdm/Journal/inl/JournalEntry.inl
src/rdm/FS/source/IncomeTaxes.cpp	src/rdm/Journal/inl/Journal.inl
src/rdm/FS/source/InterestIncome.cpp	src/rdm/Journal/inl/MonthlyJournal.inl
src/rdm/FS/source/InterestOnDebtSecurities.cpp	src/rdm/Journal/inl/JournalMgr.inl
src/rdm/FS/source/InterestRateSwaps.cpp	src/rdm/Journal/source/
src/rdm/FS/source/Investments.cpp	src/rdm/Journal/source/CapitalEntry.cpp
src/rdm/FS/source/Liabilities.cpp	src/rdm/Journal/source/AssetEntry.cpp
src/rdm/FS/source/LossPortfolio.cpp	src/rdm/Journal/source/ExpenseEntry.cpp
src/rdm/FS/source/MortgageLossPortfolio.cpp	src/rdm/Journal/source/Factory.cpp
src/rdm/FS/source/MortgagePortfolioGuranteeFee.cpp	src/rdm/Journal/source/Journal.cpp
src/rdm/FS/source/MultiFamily.cpp	src/rdm/Journal/source/JournalEntry.cpp
src/rdm/FS/source/MortgagePortfolioSold.cpp	src/rdm/Journal/source/JournalMgr.cpp
src/rdm/FS/source/MortgagePortfolioInterestIncome.cpp	src/rdm/Journal/source/LiabilityEntry.cpp
src/rdm/FS/source/MortgagePortfolioRetained.cpp	src/rdm/Journal/source/Makefile
src/rdm/FS/source/MortgageProductTypes.cpp	src/rdm/Journal/source/MonthlyJournal.cpp
src/rdm/FS/source/OtherAssets.cpp	src/rdm/Journal/source/RevenueEntry.cpp
src/rdm/FS/source/MultiFamilyLossPortfolio.cpp	src/rdm/Journal/source/OffBalanceSheetAssetEntry.cpp
src/rdm/FS/source/NonMortgageInvestments.cpp	src/rdm/Journal/source/test.cpp
src/rdm/FS/source/OtherLiabilities.cpp	src/rdm/SQR/
src/rdm/FS/source/OtherRatios.cpp	src/rdm/SQR/source/
src/rdm/FS/source/ProcessMgr.cpp	src/rdm/SQR/source/AnalysisReportAscii.sqr
src/rdm/FS/source/PeriodicFinancialStatement.cpp	src/rdm/SQR/source/AnalysisReport.sqr
src/rdm/FS/source/StartingPosition.cpp	src/rdm/SQR/source/IncomeStatement.sqr
src/rdm/FS/source/ProvisionForMortgageLosses.cpp	src/rdm/SQR/source/AnalysisReportCommon.sqr
src/rdm/FS/source/ProvisionForMortgageLossesWrap.cpp	src/rdm/SQR/source/BalanceSheet.sqr
src/rdm/FS/source/SingleFamilyLossPortfolio.cpp	src/rdm/SQR/source/BalanceSheetAscii.sqr
src/rdm/FS/source/SingleFamilyMortgageData.cpp	src/rdm/SQR/source/BalanceSheetCommon.sqr
src/rdm/FS/source/StockHolderEquity.cpp	src/rdm/SQR/source/CapitalAdequacy.sqr
src/rdm/FS/source/YieldsAndCosts.cpp	src/rdm/SQR/source/CapitalAdequacyAscii.sqr

Relative File/Directory Path from $RBC_HOME	Relative File/Directory Path from $RBC_HOME
src/rdm/SQR/source/CapitalAdequacyCommon.sqr	src/rdm/SQR/source/ScheduleH.sqr
src/rdm/SQR/source/Cashflow.sqr	src/rdm/SQR/source/ScheduleHAscii.sqr
src/rdm/SQR/source/CashflowAscii.sqr	src/rdm/SQR/source/ScheduleHCommon.sqr
src/rdm/SQR/source/CashflowCommon.sqr	src/rdm/SQR/source/ScheduleI.sqr
src/rdm/SQR/source/ComDiv.sqr	src/rdm/SQR/source/ScheduleIAscii.sqr
src/rdm/SQR/source/Common.sqr	src/rdm/SQR/source/ScheduleICommon.sqr
src/rdm/SQR/source/CommonAscii.sqr	src/rdm/SQR/source/ScheduleJ.sqr
src/rdm/SQR/source/Dividends.sqr	src/rdm/SQR/source/ScheduleJ1.sqr
src/rdm/SQR/source/IncomeStatementAscii.sqr	src/rdm/SQR/source/ScheduleJ1Ascii.sqr
src/rdm/SQR/source/IncomeStatementCommon.sqr	src/rdm/SQR/source/ScheduleJ2.sqr
src/rdm/SQR/source/Makefile	src/rdm/SQR/source/ScheduleJ2Ascii.sqr
src/rdm/SQR/source/OFHEO.sqr	src/rdm/SQR/source/ScheduleJAscii.sqr
src/rdm/SQR/source/RunProfile.sqr	src/rdm/SQR/source/ScheduleJCommon.sqr
src/rdm/SQR/source/ScheduleA1.lis	src/rdm/SQR/source/ScheduleK.sqr
src/rdm/SQR/source/ScheduleA1.sqr	src/rdm/SQR/source/ScheduleKAscii.sqr
src/rdm/SQR/source/ScheduleA1Ascii.sqr	src/rdm/SQR/source/ScheduleKCommon.sqr
src/rdm/SQR/source/ScheduleA1Common.sqr	src/rdm/SQR/source/ScheduleL.sqr
src/rdm/SQR/source/ScheduleA2.sqr	src/rdm/SQR/source/ScheduleLAscii.sqr
src/rdm/SQR/source/ScheduleA2Ascii.sqr	src/rdm/SQR/source/ScheduleLCommon.sqr
src/rdm/SQR/source/ScheduleA2Common.sqr	src/rdm/SQR/source/ScheduleM.sqr
src/rdm/SQR/source/ScheduleB.sqr	src/rdm/SQR/source/ScheduleMAscii.sqr
src/rdm/SQR/source/ScheduleBAscii.sqr	src/rdm/SQR/source/ScheduleMCommon.sqr
src/rdm/SQR/source/ScheduleBCommon.sqr	src/rdm/SQR/source/ScheduleN.sqr
src/rdm/SQR/source/ScheduleC.sqr	src/rdm/SQR/source/ScheduleN1.sqr
src/rdm/SQR/source/ScheduleCAscii.sqr	src/rdm/SQR/source/ScheduleN2.sqr
src/rdm/SQR/source/ScheduleCCommon.sqr	src/rdm/SQR/source/ScheduleNCommon.sqr
src/rdm/SQR/source/ScheduleD.sqr	src/rdm/SQR/source/ScheduleO.sqr
src/rdm/SQR/source/ScheduleD1.sqr	src/rdm/SQR/source/ScheduleOAscii.sqr
src/rdm/SQR/source/ScheduleD1Ascii.sqr	src/rdm/SQR/source/ScheduleOCommon.sqr
src/rdm/SQR/source/ScheduleD2.sqr	src/rdm/build/
src/rdm/SQR/source/ScheduleD2Ascii.sqr	src/rdm/build/Common.mak
src/rdm/SQR/source/ScheduleDAscii.sqr	src/rdm/build/build.sh
src/rdm/SQR/source/ScheduleDCommon.sqr	src/rdm/lib/
src/rdm/SQR/source/ScheduleE.sqr	src/rdm/bin/
src/rdm/SQR/source/ScheduleEAscii.sqr	src/whole_loan/
src/rdm/SQR/source/ScheduleECommon.sqr	src/whole_loan/build/
src/rdm/SQR/source/ScheduleF1.sqr	src/whole_loan/build/Makefile
src/rdm/SQR/source/ScheduleF1Ascii.sqr	src/whole_loan/inc/
src/rdm/SQR/source/ScheduleF1Common.sqr	src/whole_loan/inc/wlcfAggregationBucket.h
src/rdm/SQR/source/ScheduleF2.sqr	src/whole_loan/inc/wlcfAggregator.h
src/rdm/SQR/source/ScheduleF2Ascii.sqr	src/whole_loan/inc/wlcfAggregatorMgr.h
src/rdm/SQR/source/ScheduleF2Common.sqr	src/whole_loan/inc/wlcfArmRelDataElmt.h
src/rdm/SQR/source/ScheduleG.sqr	src/whole_loan/inc/wlcfCE.h
src/rdm/SQR/source/ScheduleG1.sqr	src/whole_loan/inc/wlcfCMT.h
src/rdm/SQR/source/ScheduleG1Ascii.sqr	src/whole_loan/inc/wlcfCalc.h
src/rdm/SQR/source/ScheduleG2.sqr	src/whole_loan/inc/wlcfCeDataElmt.h
src/rdm/SQR/source/ScheduleG2Ascii.sqr	src/whole_loan/inc/wlcfConfig.h
src/rdm/SQR/source/ScheduleGAscii.sqr	src/whole_loan/inc/wlcfDP.h
src/rdm/SQR/source/ScheduleGCommon.sqr	src/whole_loan/inc/wlcfDataCollector.h

Relative File/Directory Path from $RBC_HOME	Relative File/Directory Path from $RBC_HOME
src/whole_loan/inc/wlcfDirMgr.h	db/
src/whole_loan/inc/wlcfEV.h	db/data_validation_system/
src/whole_loan/inc/wlcfGLS.h	db/data_validation_system/bin/
src/whole_loan/inc/wlcfInputData.h	db/data_validation_system/bin/check_first_coupon_date.sas
src/whole_loan/inc/wlcfInputMgr.h	db/data_validation_system/bin/check_iss_date.sas
src/whole_loan/inc/wlcfMA.h	db/data_validation_system/bin/check_mty_date.sas
src/whole_loan/inc/wlcfMfDataElmt.h	db/data_validation_system/bin/check_valid_date.sas
src/whole_loan/inc/wlcfNLS.h	db/data_validation_system/bin/check_vals.sas
src/whole_loan/inc/wlcfWLCF.h	db/data_validation_system/bin/create_date_format.sas
src/whole_loan/inc/wlcfRbcIoTypes.h	db/data_validation_system/bin/Data_Validation_System_v1.0_ddl.sql
src/whole_loan/inc/wlcfSfDataElmt.h	db/data_validation_system/bin/DVS_business_rules.pro
src/whole_loan/inc/wlcfWLMaster.h	db/data_validation_system/bin/DVS_grants.sql
src/whole_loan/src/	db/data_validation_system/bin/DVS_load_data.bcp
src/whole_loan/src/wlcf.cpp	db/data_validation_system/bin/DVS_run_data_checks.sql
src/whole_loan/src/wlcfCE.cpp	db/data_validation_system/bin/DVS_run_validation_report.sql
src/whole_loan/src/wlcfDirMgr.cpp	db/data_validation_system/bin/DVS_run_val_upb_report.sql
src/whole_loan/src/wlcfDP.cpp	db/data_validation_system/bin/final_report_insert.sas
src/whole_loan/src/wlcfAggregationBucket.cpp	db/data_validation_system/bin/main_ffo.sas
src/whole_loan/src/wlcfAggregator.cpp	db/data_validation_system/bin/mamt_ffo.sas
src/whole_loan/src/wlcfAggregatorMgr.cpp	db/data_validation_system/bin/marm_cmt_data_elements_ffo.sas
src/whole_loan/src/wlcfArmRelDataElmt.cpp	db/data_validation_system/bin/marm_related_data_elements_ffo.sas
src/whole_loan/src/wlcfCMT.cpp	db/data_validation_system/bin/mce_cmt_data_elements_ffo.sas
src/whole_loan/src/wlcfCalc.cpp	db/data_validation_system/bin/mce_contract_elements_ffo.sas
src/whole_loan/src/wlcfCeDataElmt.cpp	db/data_validation_system/bin/mce_data_elements_ffo.sas
src/whole_loan/src/wlcfConfig.cpp	db/data_validation_system/bin/mcntrprty_cr_ffo.sas
src/whole_loan/src/wlcfDataCollector.cpp	db/data_validation_system/bin/mcntrprty_lkp_ffo.sas
src/whole_loan/src/wlcfEV.cpp	db/data_validation_system/bin/mfin_instmt_mstr_ffo.sas
src/whole_loan/src/wlcfGLS.cpp	db/data_validation_system/bin/mfutures_options_ffo.sas
src/whole_loan/src/wlcfInputData.cpp	db/data_validation_system/bin/midx_formula_ffo.sas
src/whole_loan/src/wlcfInputMgr.cpp	db/data_validation_system/bin/minstmt_cred_rating_ffo.sas
src/whole_loan/src/wlcfMA.cpp	db/data_validation_system/bin/minstnm_assn_ffo.sas
src/whole_loan/src/wlcfMfDataElmt.cpp	db/data_validation_system/bin/mint_paymt_formula_ffo.sas
src/whole_loan/src/wlcfNLS.cpp	db/data_validation_system/bin/mint_paymt_sched_ffo.sas
src/whole_loan/src/wlcfRbcIoTypes.cpp	db/data_validation_system/bin/mmbs_arm_ffo.sas
src/whole_loan/src/wlcfSfDataElmt.cpp	db/data_validation_system/bin/mmbs_ffo.sas
src/whole_loan/src/wlcfWLCF.cpp	db/data_validation_system/bin/mmf_data_elements_ffo.sas
src/whole_loan/src/wlcfWLMaster.cpp	db/data_validation_system/bin/mmrb_ffo.sas
src/whole_loan/lib/	db/data_validation_system/bin/mmulti_class_derv_ffo.sas
src/whole_loan/bin/	db/data_validation_system/bin/moption_sched_ffo.sas
	db/data_validation_system/bin/mota_ffo.sas
rbc_run/	db/data_validation_system/bin/mperf_hist_ffo.sas
rbc_run /Acme/scenario/Up/	db/data_validation_system/bin/mprin_chng_sched_ffo.sas
	db/data_validation_system/bin/mrbc_reconciliation_ffo.sas
rbc_run /Acme/scenario/Up/Acme_Up.config	db/data_validation_system/bin/mreference_asset_ffo.sas
rbc_run /Acme/scenario/Up/logs/	db/data_validation_system/bin/msf_cmt_data_elements_ffo.sas
rbc_run /Acme/scenario/Down/	db/data_validation_system/bin/msf_data_elements_ffo.sas
	db/data_validation_system/bin/mtrade_hist_ffo.sas
rbc_run /Acme/scenario/Down/Acme_Down.config	db/data_validation_system/bin/mwl_cmt_master_ffo.sas
rbc_run /Acme/scenario/Down/logs/	db/data_validation_system/bin/mwl_master_ffo.sas

Relative File/Directory Path from $RBC_HOME
db/data_validation_system/bin/RBC_Report_Instr_Format_Lib.sas
db/data_validation_system/bin/scan_data.pl
db/data_validation_system/data/
db/data_validation_system/data/validation_rule_lookup.dat
db/data_validation_system/output/
db/database/
db/database/bin/
db/database/bin/RBC_RDM_DDL.sql
db/database/bin/RBC_RDM_grants.sql
db/database/bin/RBC_RDM_load_data.bcp
db/data/Acme/
db/data/Acme/amt.dat
db/data/Acme/arm_cmt_data_elements.dat
db/data/Acme/arm_related_data_elements.dat
db/data/Acme/ce_cmt_data_elements.dat
db/data/Acme/ce_contract_elements.dat
db/data/Acme/ce_data_elements.dat
db/data/Acme/cntrprty_cred_rating.dat
db/data/Acme/cntrprty_entity_lkp.dat
db/data/Acme/financial_instmt_mstr.dat
db/data/Acme/lookup/fsm_adj_hpi.dat
db/data/Acme/lookup/fsm_adj_rpi.dat
db/data/Acme/lookup/fsm_benchmark_hpi.dat
db/data/Acme/lookup/fsm_benchmark_rpi.dat
db/data/Acme/lookup/fsm_benchmark_vr.dat
db/data/Acme/lookup/fsm_hist_idx.dat
db/data/Acme/lookup/fsm_lkp_cmt_ratio.dat
db/data/Acme/lookup/fsm_lkp_derv_haircut.dat
db/data/Acme/lookup/fsm_lkp_idx.dat
db/data/Acme/lookup/fsm_lkp_idx_assoc.dat
db/data/Acme/lookup/fsm_lkp_natl_avg_hpi.dat
db/data/Acme/lookup/fsm_lkp_non_derv_hair.dat
db/data/Acme/lookup/fsm_lkp_sf_def_pp_coeff.dat
db/data/Acme/lookup/fsm_lookup_aoltv.dat
db/data/Acme/lookup/fsm_proj_idx.dat
db/data/Acme/lookup/fsm_run_profile.dat
db/data/Acme/futures_options.dat
db/data/Acme/idx_formula.dat
db/data/Acme/lookup/income_tax_rate.dat
db/data/Acme/instmt_assn.dat

Relative File/Directory Path from $RBC_HOME
db/data/Acme/instmt_cred_rating.dat
db/data/Acme/int_paymt_formula.dat
db/data/Acme/int_paymt_sched.dat
db/data/Acme/lookup/int_rate_cat_type.dat
db/data/Acme/mbs.dat
db/data/Acme/mbs_arm.dat
db/data/Acme/mf_data_elements.dat
db/data/Acme/lookup/mort_prod_types_type.dat
db/data/Acme/mrb.dat
db/data/Acme/multi_class_derv.dat
db/data/Acme/lookup/multi_family_type.dat
db/data/Acme/option_sched.dat
db/data/Acme/ota.dat
db/data/Acme/perf_hist.dat
db/data/Acme/prin_chng_sched.dat
db/data/Acme/rbc_acct_recon.dat
db/data/Acme/reference_asset.dat
db/data/Acme/lookup/report_profile.dat
db/data/Acme/lookup/run_profile.dat
db/data/Acme/sf_cmt_data_elements.dat
db/data/Acme/sf_data_elements.dat
db/data/Acme/ ookup/single_family_type.dat
db/data/Acme/trade_hist.dat
db/data/Acme/whole_loan_master.dat
db/data/Acme/wl_master_cmt.dat
db/database/database/output
db/database/output/RBC_RDM_DDL_example.txt
db/database/output/RBC_RDM_bcp_Acme_data_example.txt
db/database/output/RBC_RDM_bcp_Acme_lookup_example.txt
db/database/output/RBC_RDM_grants_example.txt
README
rbc_install.bash