Mun-Ease News

A Behind the Scenes Look At Release 2000

Release 2000 Architecture

We first began developing Release 2000 in May of 1999. As you may know, Mun-Ease is written with the Inprise/Borland Delphi compiler. Our first step was to convert Mun-Ease from Delphi 2 to Delphi 4. Along the way, we also updated all of the third party utilities and components that we use.

The transition to the new compiler has many benefits. It allowed us to update our user interface and to incorporate into our software many new features that Microsoft, Inprise/Borland, and the third-party component vendors have been developing. You'll notice the difference immediately; especially while working in the data grids.

About mid-way through our conversion to Delphi 4, Inprise/Borland announced the new Delphi 5 compiler. At first we were reluctant to make yet another transition to a new compiler. However we noticed that the new Delphi 5 compiler contained many features that we needed especially with regard to the Internet. In the end, we decided to develop parts of Mun-Ease 2000 with the Delphi 5 compiler. The Internet Add-on Module is written in Delphi 5 as well as the new Calendar/Event Scheduling Manager.

A New Tutorials Volume / Examples Database

We've always struggled with the fact that there is a huge learning curve with Mun-Ease. Part of the problem is the subject material. It seems that users need expertise in finance, governmental accounting, tax matters, and even high-level math. The steep learning curve is not limited to

> .... Please forward this newsletter to others in your organization who have an interest in Mun-Ease.

new users. Experienced users often have difficulties if they are learning a Mun-Ease module that they previously had not used.

Over time we've been thinking of ways to minimize the time it takes to learn Mun-Ease. After much consideration, we decided to add a new Tutorials volume that is designed for use with the Examples database. We've revised the examples to better illustrate the key concepts for each of the modules.

New Database Format

Release 2000 automatically detects the first time that you run the new version. After detecting a new user, Mun-Ease copies the data from your old Bond Master file (BondMast.Db) to a new Bond Master File (BondMstr.Db). In case you are worried about this conversion, we don't remove the old Bond Master File from the hard disk. We merely copy the contents to the new database table.

The new format of the Bond Master File has many advantages. First, we have expanded most of the description fields from 30 characters to 60 characters (issuer name, bond issue name, and bid name). In the past, many of our customers have complained about the 30-character limitation. Most of these customers were law firms, CPA firms, or financial advisors who thought it was unprofessional to truncate the names of clients for whom they were producing reports.

Secondly, we have expanded the number of maturities that you can now enter. For all intents and purposes, the number of maturities is limited only by the amount of memory on your computer. This feature is especially useful for housing bonds. It is not unusual to encounter 30-year housing bonds with quarterly principal payments (120 maturities).

Convertible CABS

Convertible CABS are zero-coupon bonds that turn into current-interest bonds after they accrete to a multiple of $5,000. They pay interest until they finally mature at some later date in the future. Within Mun-Ease, you enter a convertible CAB the same way you enter a regular CAB. There is one important difference though. With a CAB, you enter the same date for both the maturity and term date. For a convertible CAB, you enter the date that the CAB reverts to a current interest bond in the maturity date field and the final maturity date in the term date field.

Let's look at an example. Turn to page 52 in the 9.0 manual. Look at maturity #16 in the screen graphic. It is a CAB with a discounted value of $7,931,682.85 and a value at maturity (4/1/2006) of $25,805,000.

Let's assume that instead of maturing on 4/1/2006, this CAB reverts to a current interest bond and pays periodic interest until 4/1/2010. If that were the case, you would enter the CAB in exactly the same manner as shown in the graphic, however you would change the value of the term date field to 4/1/2010.

Calendar/Event Scheduling Manager

The Base module now contains a calendar/event scheduling manager. It allows you to view important bond-related events in a PIM-type format. We have a download feature so that debt service payments and rebate payment schedules are automatically loaded to the scheduling manager.

Importing SLGS Rates and Coupon Rates from the Internet

Mun-Ease 2000 has the ability to import SLGS rates and current coupon rates from the Internet. SLGS rates are imported from the Treasury web site. Coupon rates can be imported from the free Bloomberg site. That site contains daily rates for AA insured muni bonds. The steps to import this information are shown below:

Start up your web browser and go to the Mun-Ease web site (www.mun-ease.com). Choose the *Related Sites* page from the main menu. From there, link to either the Treasury site or the Bloomberg site. (You may need to navigate to the page where the rate scales are displayed to you.) When you arrive at the desired page in your browser, choose *File* / *Save* and save the HTML page to your hard disk in HTML format.

Start up your spreadsheet package (Excel, Quattro Pro, or Lotus). Open the HTML document in your spreadsheet package. Now choose the *File* / *Save As* menu option and save the HTML document as a comma-delimited file (CSV extension).

Start Mun-Ease. Click on the *Scales* speed button and choose either the SLGS or coupon rate menu option. Click on the *Import* radio button and enter the name of the comma-delimited file that you wish to import.

New Arbitrage Features

The new *Arbitrage* / *Utilities* menu contains three options:

Commingled Bond Proceeds	Calculates the amount of unspent proceeds when bond proceeds have been commingled with proceeds of other issues.
PV/FV Calculator	Can calculate the present-value or future-value of a stream of cash flows using a user-defined PV/FV factor.
Flip Signs (+/-)	Can flip the signs of a group of transactions defined by you.

The most important of these new features is the Commingled Bond Proceeds option. It allows you to input historical rates of return on your investment portfolio over the life of the bond issue. Assuming that you have entered the purpose expenditures associated with the bond issue, it will then impute the amount of interest earnings and the ending unspent proceeds balance. This option replaces the spreadsheet interface that was used in prior releases.

Arbitrage Regulations

We've updated the help file containing the arbitrage regulations. The search engine has been greatly enhanced and we provide a split screen capability where you can view the section titles in one panel and the text of the regulations in another. Our Arbitrage help file now includes the full text of court decisions, private letter rulings, technical service advice memoranda, and field service advice memoranda.

Sizing/Refunding Enhancements

The Sizing and Refunding modules contain many new input and calculation options. With release 2000, almost every input option allows you to define either a calculation formula or a fixed dollar amount for the source/use. The added flexibility is important to many financial advisors and governmental users who need to run a sizing or refunding report that reflects the final numbers. (Many times small variances occur between amounts calculated in the pro-forma bond issue and the amounts paid the actual bond issue.) With this release, it is easy to generate reports that reflect the actual amounts.

We've also added a new option to calculate the bond surety fee based on a simulated debt service reserve fund. The Sizing module also contains a new menu option that allows you to easily regenerate the sizing reports without having to redo the entire sizing process.

Structuring Calculations By Fiscal Year

We have changed the way we structure debt service in our sizing and refunding modules for options that involve yearly principal payments. In prior releases, Mun-Ease structured the yearly debt service without regard to the fiscal year. When we calculated the yearly debt service payment, we added the debt service with the principal payment with the prior debt service payment. This procedure worked fine when the principal payment occurred in the latter part of the fiscal year. However, if the principal payment occurred in the first part of the fiscal year, the resulting debt service for the first and last fiscal years would appear to be skewed in any reports displaying totals by fiscal year.

Release 2000 now structures the debt service based on fiscal year. If the principal payment occurs in the first half of the fiscal year, we add the debt service payment that includes the principal reduction to the subsequent debt service payment in computing the amount of debt service for the year. Alternatively if the principal payment occurs in the latter part of the fiscal year, we add the debt service payment that includes the principal reduction with the prior debt service payment in computing the amount of debt service for the year.

New Sizing Rules

We've added six new sizing rules to the Sizing module. Four these rules (#'s 13-16) are similar to rules 11 and 12 that existed in prior releases. Rules 11 and 12 allow you to size a bond issue modeling the debt service after a user-defined revenue stream. Unfortunately, with rules 11 and 12, Mun-Ease would model the debt service to exactly match the revenue stream that you input. Thus the user would have no control over the actual size of the bond issue that Mun-Ease computed.

With the new rules 13 and 14, the user inputs the size of a bond issue in addition to the revenue stream. Mun-Ease then patterns the debt service after the revenue stream, but increases or decreases the pattern until we find a debt service that results in a bond issue equal to the size that you entered. Rules 15 and 16 are similar except that you input the desired size of a project. Again we adjust the debt service up or down until we reach a pattern where there is just enough of net bond proceeds to pay for the project.

Rules 17 and 18 allow you to size a bond issue with level debt service. However you specify that you want to limit the amount of debt service to "X" dollars through a date that you specify. After that date Mun-Ease will compute the amount of level debt service that will allow you to sufficiently fund the project that you have specified.

Bifurcated Wrap-Around Escrows

Release 2000 easily handles multiple escrows. It can also create an escrow composed of securities that wrap around outside escrow receipts. The need for this capability occurs in a few different instances:

1. When you have transferred proceeds and those proceeds have not yet transferred over to refunding issue. Until they transfer over at their transfer date, they are restricted to to the AYL of refunded issue.
2. When you have a bifurcated issue that is composed of part current refunding and part advance refunding. Investments in a current refunding are unrestricted if they mature within 91 days.
3. When the refunded issue has investments in a bona-fide debt service fund. Investments in a bona-fide debt service are not yield-restricted.

In all of the above examples, the issuer is required to apply the investment receipts to the refunding

escrow thereby necessitating the need to create multiple escrows in the refunding issue. Mun-Ease can create a wrap-around escrow portfolio composed of SLGS or open market securities that is sufficient to pay the debt service of the refunded bonds net of the outside escrow receipts. The outside escrow receipts must be coded with a fund ID beginning with a '~' character. This designation allows Mun-Ease to determine which investment receipts are to be wrapped around when structuring the new escrow portfolio.

Allocations Enhancements

We've added a new report to the maturity-by-maturity allocations. The report is a multi-year amortization schedule. For efficiency reasons, we had previously declined to provide this capability. However, we have now decided to throw caution to the wind and succumb to our users' desires with this release. (In the years since we first released the Allocations module, computers have gotten much faster and we have now optimized our Allocations I/O routines to the point where this report is feasible.) To minimize the time it takes to run this report, it is important that you try to use the predefined database indexes. You will greatly reduce the time it takes to run this report if you narrow the number of database records Mun-Ease reads by specifying one of the following:

1. *Fund ID,*
2. *Fund ID and Allocation Entity Code,*
3. *Fund ID, Allocation Entity Code, and Allocation SubEntity Code,*
4. *Fund ID, Allocation Entity Code, Allocation SubEntity Code, and Project ID*

Choosing one of the four selection criteria allows Mun-Ease to limit the range of allocation records that it reads.

Private Use Tests

Private activity bonds are tax-exempt if they meet the 5% and 10% private-activity tests. The 5% test is for non-government-related private activities. The 10% test is for government-related private activities. If you define both private and public use activities in the maturity-by-maturity Allocations module, it is easy to determine if a bond issue is in compliance with the 5% and 10% tests.

Note that over time a bond issue may violate the private activity tests if certain maturities are refunded. That's because the remaining unrefunded maturities may have a higher percentage of private use activities associated with them whereas the refunded maturities may have been used to fund the public use activities. The Allocations module now has features that allow you to input the private use and public use percentages for a given allocation coding block. It can then generate a report that can be used to determine whether it is feasible to refund a specific maturity or maturities and still be in compliance with the private use rules.

Internet Add-On Module

We've added a new module to Mun-Ease that allows users and other outside parties to access the Mun-Ease database with a web browser. This new module is easy to install and does not require your organization to buy any other software than what we provide. Just install Mun-Ease on your web server and place the two Mun-Ease Internet files (MuniWeb.Exe/Dll and Main.Htm) in the scripts folder of your web server. (You may also need to copy the Mun-Ease database over to your web server if it doesn't currently reside there.)

Once these tasks are accomplished, you are off and running. Users can now obtain debt service schedules and bond production reports using just a browser.

Fall Class Schedule Revised

The GFOA will offer one Mun-Ease class this year. The class is 2 $^{1/2}$ days in length. The date for this class is:

October 9-11

The class starts at 8:30 AM and ends at 12:00 PM on Wednesday, 10/11.

Classes are held at the GFOA headquarters in Chicago. Class size is limited to 15 students and is conducted by having the student solve real-life problems using Mun-Ease on a computer provided by the GFOA. If you are interested in attending class,

call the GFOA for availability. Also check the Mun-Ease web site to view the class agenda.