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A special Thank You to Heidi Kuhn and Peggy King, without whose continuing help, this publication would not be possible.

On the Cover:  
Rock Cut Bloom by Bern Bray  
This is a springtime view of the Never Summer Mountains from the Rock Cut on Trail Ridge Road in Rocky Mountain National Park. Elevation 12,110 feet. Marmot and Pika are abundant in the rocks below the roadbed.

Bern Bray is a full time Senior Oracle Database and E-Business Suite Administrator for Kroll Factual Data. This year marks his 20th year of working with Oracle products. He is a part time photographer and has sold his photographs online and at Northern Colorado Fine Art Fairs for the past 6 years. He also sells his works through local galleries and stores.

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For the past 25 years, RMOUG has provided a forum for professionals in the field of Information Technology to connect with one another. As we start a new RMOUG year, we are faced with more challenges as our industry continues to change.

Adapting to our members’ changing needs has been, and remains today, RMOUG’s top priority. As RMOUG continues to offer our members excellent training opportunities over the next year, we will look at ways to add to and improve our services for our membership. Our hope is to help fill the void being caused by cuts to many training budgets. Please feel free to contact me with any suggestions you might have. You can contact me at president@rmoug.org.

As Vince Lombardi said, “The achievements of an organization are the results of the combined effort of each individual.” I believe that all of us working together with the guidance of our Board can make this year one of the best for RMOUG.

I encourage each of you to consider how you might participate. If you are not sure where you fit in, please don’t hesitate to reach out to me or to any of our board members directly. RMOUG can use your help in a variety of ways; writing articles for the newsletter, speaking at a Quarterly Educational Workshop, participating in a Special Interest Group, being part of the Training Days conference committee and more. We are already in the planning stages for our 2010 Training Days Conference that is scheduled to take place February 15 – 17, 2011 at the Colorado Convention Center. I hope you will make plans to join us.

All the best,

Peggy King
2009/2010 RMOUG President

First, an apology to our RMOUG members for the tardiness of this issue. I have a pretty good excuse, but I hate excuses. Instead, I would like to share my story with you and, hopefully, help someone who may find themselves in a similar situation.

In February, I underwent open heart surgery for a rare congenital heart defect, an unroofed coronary sinus. Basically, the vessel returning blood from the lungs was missing the “roof”, allowing unoxygenated blood to enter the wrong heart chamber.

I had symptoms for years, but couldn’t get any of my doctors to take me seriously. When the symptoms worsened late last year, I finally found a great family practitioner in Elizabeth, CO who listened. I owe my life to this wonderful woman who persisted until we found the answer.

First, a side trip to an endocrinologist. I had been told for years I probably had moderate hypoglycemia (low blood sugar). This turned out not to be true, so our next stop was with a cardiologist. I passed the stress tests with flying colors but an echocardiogram (ultrasound of the heart) showed right-sided enlargement. Next stop - an esophageal echocardiogram, where they stick a camera down your esophagus to get a better image of the heart. Not my idea of a good time, but they give you good drugs.

I was shocked (to say the least) when they found what they diagnosed as an atrial septal defect - a hole between the upper chambers of the heart. “How the &*% could I get this old and not know I had a hole in my heart,” I asked, not very politely. It turns out it’s quite common. If the problem is not discovered at birth, people can go for many years until one day the body decides it can’t compensate for the problem any longer.

Lesson #1 - If you’re having symptoms and your doctor won’t listen, find another doctor.

Next stop - a Cardiologist at the University of Colorado Hospital who specializes in repairing these defects. The good news was that he could do the repair by inserting an occluder through the femoral artery, basically an out-patient procedure. Boy, did I feel lucky - until they tried.

It turns out that the first hospital only had 2D imaging and the 3D imaging at CU revealed not the defect that was...
RMOUG is seeking abstracts for this meeting. Presentations can include overviews, tips, techniques, and testimonials, and lessons-learned. For abstract submission, we are seeking the equivalent of a proposal for the presentation.

Please contact
Carolyn Fryc
cfryc@orsportal.com

originally diagnosed, but a very rare defect which could not be repaired by the occluder. The down side was that we were now facing open heart surgery to prevent full heart failure in the not so distant future.

Lesson #2 - make sure the hospital you’re dealing with has the very latest diagnostic equipment and treatment procedures.

There was an up side. I was not yet in heart failure, was in excellent physical shape (thanks to my horses) and young enough to make this an easy procedure. I couldn’t ride for 8 weeks, but I should be healthy in six weeks or so. However, their definition of healthy wasn’t quite the same as mine. I expected to be back to my “normal”, which wasn’t the same as theirs.

Lesson #3 - carefully clarify your expectations of what “back to normal” is.

Now four months later, some post-surgery complications are still keeping me working part time, but as Brooks & Dunn say, “It’s getting better all the time”.

My sincere and heartfelt thanks to everyone for your patience, understanding, and most of all, your kind wishes. The Summer 2010 issue should be coming shortly, after which we’ll be back on schedule. Best wishes to all of you and stay healthy.

Pat Van Buskirk

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By contributing to the Stan Yellott Scholarship Fund, you are joining with RMOUG and the Information Technology Community to assist deserving students to achieve their IT educational goals. For contributions of $100 or more, you will receive a commemorative Tie-Dyed T-Shirt in honor of Stan.
Integrating Oracle GoldenGate and Oracle Data Integrator for Change Data Capture

by Mark Rittman, Oracle ACE Director

If you have an interest in data warehousing, data replication or data migration, you may well have heard about Oracle’s recent acquisition of GoldenGate Software, a California-based software vendor that sold cross-platform data replication and change data capture software. The products produced by GoldenGate have recently been chosen by Oracle as their strategic data replication technology, and are managed within Oracle by the same team that develops Oracle Data Integrator and Oracle Warehouse Builder.

In this article, we will look at how the Oracle GoldenGate data replication product can be used in conjunction with Oracle Data Integrator to provide continuous change data capture between Oracle databases, following the release of an Oracle Data Integrator patch that provides out-of-the-box integration between the tools. Due to the space constraints of this article, I will assume a basic working knowledge of Oracle GoldenGate and Oracle Data Integrator, and will instead focus on an example of how the two tools can be used together. If you are new to either Oracle GoldenGate or Oracle Data Integrator, please take a look on the Oracle Technology Network website for software downloads, installation instructions and tutorials on basic functionality, at http://otn.oracle.com.

Getting Started

In this scenario, we will be working with three separate database schemas:

- A source schema called GG_TEST_SRC
- A staging schema called GG_TEST_STG, and
- A target schema called GG_TEST_TGT

For convenience, all of these schemas are held on the same Oracle 11g Release 1 database: however, they could be held on separate Oracle databases and in addition, any version of Oracle from release 9i onwards could be used instead of version 11g.

The GG_TEST_SRC schema has a table called CUSTOMERS, from which we want to capture changes. My target database GG_TEST_TGT has a table called CUSTOMERS_FULL that I wish to copy these changes into, along with some lookup data from a table called CITIES in the same schema that will be added to the incoming change records.

Oracle GoldenGate and Oracle Data Integrator will provide a transport mechanism between these schemas through the GG_TEST_STG intermediate staging schema. This staging schema will contain a replica of the CUSTOMERS source table (a requirement for GoldenGate) together with the tables and view used by Oracle Data Integrator to manage the change data capture process. Data Integrator will then use this information to apply the changes to the target table, as shown in Figure 1 below:

Because GoldenGate populates the same type of change data capture database views and tables already used by Oracle Data Integrator, this integration works with no changes needed to either
Data Integrator or your project. Oracle GoldenGate populates all
the table and views that Data Integrator expects to see when work-
ing with what it refers to as “journalized” data sources, and
the fact that you are now using Oracle GoldenGate to capture changes
effectively “transparent” to the rest of your Data Integrator
project.

To set up this integration, I have used the following software
products and patches available on Metalink:

- Oracle GoldenGate 10.4.0 for Oracle 11g on Windows 2000,
  XP and 2003
- Oracle Database 11.1.0.7 on Windows Server 2003 (this
  needs to be downloaded from Edelivery)
- Oracle Data Integrator 10.1.3.5 for Windows 32-bit, with
  the 10.1.3.6 patch (9377717) and the 10.1.3.6.0_02 patch
  (9449058)

We will actually need two separate installations of Oracle
GoldenGate for this scenario; one for the capture process that will
work with the GG_TEST_SRC schema, and one for the staging pro-
cess that will work with the GG_TEST_STG schema. Oracle Data
Integrator will then transfer the changed data placed in the staging
schema into the target schema via a regular interface and package.
Once the two Oracle GoldenGate software installations are com-
plete, we would then need to perform the post-install configuration
steps detailed in the product documentation, and, if not done so
already, install and configure Oracle Data Integrator together with
the patches listed above.

**Configuring Oracle Data Integrator and
Oracle GoldenGate**

Figure 2 below shows the Physical Architecture view within
the Oracle Data Integrator Topology Manager, with the three data
servers set up for my source, staging and target schemas.

Note that the “JKM Oracle to Oracle Consistent (OGG)”
knowledge module provided through patch no. 9449058 is only
designed to move new and changed data between two Oracle data-
bases. Whilst it should be possible to amend the scripts generated
by this knowledge module to support other database platforms, this
is not currently supported and is outside the scope of this article.

Switching to the Oracle Data Integrator Designer, I have
defined models for the three databases and reverse-engineered the
tables that they contain. Figure 3 below shows the tables within
each module, with the GG_TEST_SRC model opened for editing.

Now we need to import the required knowledge modules into
the Oracle Data Integrator project. Keeping within the Designer,
I switch to the **Project** view and import the following knowledge
modules into my project:

- LKM SQL to Oracle
- IKM Oracle Incremental Update
- JKM Oracle to Oracle Consistent (OGG)

(note that you will need to have installed patch no. 9449058
to be able to import the Oracle GoldenGate knowledge module in
this list.)

Now we are ready to start configuring the project to use
GoldenGate. To do this, edit the properties of the GG_TEST_
STG model and with the **Journalizing** tab selected, select the
Consistent option and choose JKM Oracle to Oracle Consistent
(OGG) as the journalizing knowledge module, as shown in Figure
4 below:
Within the **Journalizing KM** section of the dialog, set the option values as follows (these may vary for your own database and Oracle GoldenGate installations):

```
LOCAL_TEMP_DIR: C:\TEMP
SRC_LSCHEMA: GG_TEST_SRC
SRC_DB_USER: system
SRC_DB_PASSWORD: password
SRC_OGG_PATH: C:\GOLDENGATE\GOLDENGATE_SRC
SRC_HOST: LOCALHOST
STG_MANAGER_PORT: 7910
STG_OGG_PATH: C:\GOLDENGATE\GOLDENGATE_STG
COMPATIBLE: 10
```

This information will be used, together with details we will specify in a moment, to create the GoldenGate configuration files that Oracle Data Integrator will generate when we tell it to start journalizing data from the GG_TEST_STG staging schema.

At this point we have specified the general options for Oracle GoldenGate, but we now need to choose what tables are included in the change data capture process. To do this, I select the CUSTOMERS table in the GG_TEST_STG model, right-click on it and select **Change Data Capture > Add to CDC**, as shown in Figure 5 below.

![Figure 5: Adding a table to a Change Data Capture set](image)

I then create a subscriber for the change data capture process by right-clicking on the GG_TEST_STG model and selecting **Change Data Capture > Subscriber > Add**, and add a new subscriber called ODI. In the background, Oracle Data Integrator creates tables in the GG_TEST_STG schema to contain the list of subscribers and the tables that will have changes captured for them, and will ask you to choose an Agent (choose the **Local Agent** option) in order to create these objects.

Now that Change Data Capture has been set up, the process can be started. To do this, right-click on the GG_TEST_STG model again, and this time select **Change Data Capture > Start Journal**.

Unlike the regular change data capture with Oracle Data Integrator, changes in the source and staging tables will not automatically start propagating. Instead, you will need to follow the instructions in a file called **Readme.txt** in the LOCAL_TEMP_DIR directory specified in the knowledge module options, which will give you instructions on where to copy configuration files and command line options to run from the Unix or MS-DOS prompt. Locate this file and follow these instructions, and the capture process will then begin. To check that the capture and propagation processes are running correctly, you can use the Oracle GoldenGate ggsci command line utility to verify each process, starting with the capture processes. At the MS-DOS command-line prompt (amend as appropriate for Unix/Linux, together with file paths), type in the following commands to confirm the status of the Oracle GoldenGate processes, starting with the source schema GoldenGate installation:

```
cd c:\GoldenGate\GoldenGate_Src
ggsci
info all
GGSCI (w2k3vm) 1> info all

<table>
<thead>
<tr>
<th>Program</th>
<th>Status</th>
<th>Group</th>
<th>Lag</th>
<th>Time Since Chkpt</th>
</tr>
</thead>
<tbody>
<tr>
<td>MANAGER</td>
<td>RUNNING</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EXTRACT</td>
<td>RUNNING</td>
<td>ODISC</td>
<td>00:00:00</td>
<td>00:00:00</td>
</tr>
<tr>
<td>EXTRACT</td>
<td>RUNNING</td>
<td>ODIT1P</td>
<td>00:00:00</td>
<td>00:00:01</td>
</tr>
</tbody>
</table>
```

and then move on to the staging schema GoldenGate installation, running the replication process:

```
cd c:\GoldenGate\GoldenGate_Src
ggsci
info all
GGSCI (w2k3vm) 1> info all

<table>
<thead>
<tr>
<th>Program</th>
<th>Status</th>
<th>Group</th>
<th>Lag</th>
<th>Time Since Chkpt</th>
</tr>
</thead>
<tbody>
<tr>
<td>MANAGER</td>
<td>RUNNING</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>REPLICAT</td>
<td>RUNNING</td>
<td>ODIT1A1</td>
<td>00:00:00</td>
<td>00:00:08</td>
</tr>
</tbody>
</table>
```

At this point, Oracle GoldenGate is running and sending new and changed data from the GG_TEST_SRC.CUSTOMERS table to the GG_TEST_STG.CUSTOMERS staging table. If you get a status of STOPPED, ABENDED or similar, go back and check what you’ve done as the process won’t work later on without fixing this.
Creating a Change Data Capture Interface and Package

Assuming all is working correctly, Oracle GoldenGate will now be capturing changes in the GG_TEST_SRC schema and replicating them into the GG_TEST_STG schema, and at the same time populating the change data capture views and tables that Oracle Data Integrator uses for applying journalized data. Our next step then is to create a new Oracle Data Integrator interface that takes this journalized data and moves it into the target schema, in addition carrying out any data transformations that are required.

Using the Oracle Data Integrator Designer, I create a new interface that has the CUSTOMERS table from the GG_TEST_STG model along with the CITIES table from the GG_TEST_TGT as the interface sources, joined on a common column. For the interface target, I select the CUSTOMERS_FULL table from the GG_TEST_TGT model, and crucially I check the Journalized Data Only checkbox under the source and target areas, and enter ODI as the JRN_SUBSCRIBER subscriber name in the Implementation panel under this section, as shown in Figure 6 below.

This completes the definition of the Oracle Data Integrator interface.

Next, we need to create an Oracle Data Integrator package that will run this interface, along with the necessary change data capture administration steps. In addition, so that this capture process runs continuously, we will add a loop to the package so that it restarts after every run (warning: do not do this in production; instead, you will need to add a means to exit the loop under operator instructions).

Using Oracle Data Integrator Design, create a new package and drop an ODIWaitForLogData tool onto the canvas, and set the options to the following values (leave all other options at their default)

This tells the package to wait for one row of journalized data to appear in the GG_TEST_STG schema before proceeding with the rest of the package. Set the Global Row Count to a higher value if you want the package to wait for more rows before starting.

Then drag the GG_TEST_STG model onto the package canvas, and set the Step Type to Journalizing Model. Then scroll down in the properties area, check the Extend Window and Lock Subscribers checkboxes in the Consumption area, type in ODI into the Subscribers text box and press Add to add it to the Subscribers list. Then, click on the Options tab, and then enter the same details into the options list that you typed in to the Journalize KM options list before.

Then, add the interface that you defined previously into the package, and then duplicate the Journalize Model step you created previously, changing its name and connecting all four steps into a loop as shown in Figure 7 below:

Figure 6 : Defining the Interface to use GoldenGate journalized data.

Switching to the Flow tab for the interface, I select the following knowledge modules for the source and target execution units:

- SS_O source execution unit : LKM SQL to Oracle
- Target and Staging Area execution unit : IKM Oracle Incremental Update

This completes the definition of the Oracle Data Integrator interface.

Figure 7 : Setting up the package to consume GoldenGate journalized data.
Finally, for the final (duplicated) model step, alter the Consumption settings so that Purge Journal and Unlock Subscribers are selected, and make sure that ODI is selected as the CDC subscriber (which it should be if you’ve duplicated the previous model step and not just created a new one).

Now we can test it all out. Press the Execute button on the bottom of the package to start it running. Navigate to the Oracle Data Integrator Operator, and verify that the package is running and waiting for a new row of changed data capture to arrive in the staging table courtesy of Oracle GoldenGate. Figure 8 below shows the package running and moving data from the staging schema into the target schema, with the package at the end waiting for new data to be copied into the change data capture journalizing objects.

Conclusions
With Oracle GoldenGate and Oracle Data Integrator, you can set up data replication and change data capture either one-way or bi-directional, between Oracle or other database platforms. This article sets out how you can make use of Oracle GoldenGate with the current 10.1.3.5 or higher release of Oracle Data Integrator, by use of a patchset downloadable from Oracle’s Metalink website.

For a more detailed, step-by-step version of this article that also describes the process to set up Oracle GoldenGate on the Microsoft Windows platform, an article is available on my website at:

http://www.rittmanmead.com/2010/03/22/configuring-odi-10-1-3-6-to-use-oracle-golden-gate-for-changed-data-capture/

Please also check out the product documentation for both Oracle Data Integrator and Oracle GoldenGate, at http://otn.oracle.com.

About the Author
Mark Rittman is an Oracle ACE Director, and ODTUG board member, co-founder of Rittman Mead America, and blogs at http://www.rittmanmead.com/blog. Mark has worked with Oracle’s BI, data warehousing and ETL technologies since 1997, and presented on Oracle’s Data Integrator technologies at the recent RMOUG Training Days 2010 in Denver.
Overview

The information in this article is based upon concepts and features already discussed in Part 1 of 2, previously published (SQL>Update, Winter, 2009). Please refer to that section if you have questions about specific setup(s), versions, access, etc...

Creating Multiple Output Files

Similar to creating a spreadsheet, there are times when the users want “flat files.” Typically these files are patterned as one record per line of similar data. Additional files would contain data regarding another table or element. Those same spreadsheet-minded business users like to take these and, for example, upload them to a vendor or customer, send to a financial institution, or, yes, even import them into Excel! What this example shows is how to take data out of the database, via Excel, and produce flat files in the format desired.

In the following example, we’ll take the same DEPT and EMP tables, used earlier to:

- Accept the Database Name as a parameter
- Accept the Delimiter to be used as a parameter that separates data fields from each other
- Create two separate flat files for DEPT and EMP, respectively, each with a single record per line, and finally
- Compress these files into an archive file, like ZIP or TAR

To begin, create a new spreadsheet named, in this example, “sample_macro2.xlsm.” Open the Visual Basic Editor, as we did earlier, ready for creating our macro. Start with a few comments and define the “Back_2_Spreadsheet” procedure as we did earlier:

```
' Define Procedure to EXIT if Cancel or ESC is pressed
Sub Back_2_Spreadsheet()
  Dim response As String
  response = MsgBox("Pressed Cancel, Exiting ... ")
  End ' Cancel out of Program
End Sub
```

Next, define the “Process_Oracle_Request” procedure. In this case, there are additional variables being used and initialized to certain values:

```
' Define MAIN procedure to run
Sub Process_Oracle_Request()
  Dim v_year As String
  Dim v_month As String
  Dim v_day As String
  Dim v_hour As String
  Dim v_minute As String
  Dim v_WorkingDir As String
  Dim v_WorkingPrefix As String
  Dim v_full As String
  Dim v_dept As String
  Dim v_emp As String
  Dim v_zip As String
  Dim count As Integer
  Dim MyRowNum As Integer

  ' Declare file name variables
  Dim v_deptno As String
  Dim v_dname As String
  Dim v_loc As String
  Dim v_holdit As String
  Dim count As Integer
  Dim MyRowNum As Integer

  ' Declare DEPT variables
  Dim v_deptno As String
  Dim v_dname As String
  Dim v_loc As String
  Dim v_holdit As String
  Dim count As Integer
  Dim MyRowNum As Integer

  ' Declare EMP variables
  Dim v_empn As String
  Dim v_ename As String
  Dim v_job As String
  Dim v_hiredate As String
  Dim v_sal As String
  Dim v_comm As String
  Dim v_deptno As String
```

```
' Assign variables
```
It's now time to accept the Database Name to use.

After the Database Name is accepted, it's time to get the **delimiter** to use for field separation. This variable, “ConCatChar”, defined already, will store the character(s) to use when writing files to the operating system between each field. First, the variable is seeded with the word “TAB” since that requires a bit of special handling, but others are shown as examples:

```
' Ask User what delimiter to use
' Seed the Variable with TAB
ConCatChar = “TAB”
```

You'll see the If-Then statement checks for NULL, “”, which will terminate the operation if nothing is entered or [Cancel] is pressed. Pressing ESC or pressing [Cancel] means NULL is returned.

```
If Oracle_DB_Name = “” Then
    Back_2_Spreadsheet
End If
```

Define the variable types and instantiate the database connection by checking the “Oracle_DB_Name” parameter:

```
Dim objmyconn As ADODB.Connection
Dim objmymcmd As New ADODB.Command
Dim objMyRecordset As New ADODB.Recordset
```

```
Set objmyconn = New ADODB.Connection
Set objmymcmd = New ADODB.Command
Set objMyRecordset = New ADODB.Recordset
```

This, when run will display the following:
We now have the variables and an open database connection. We’ll use additional worksheets to store the data values, temporarily, until they are written out to the flat file(s). Knowing we’ll be using one for DEPT and one for EMP, create two new blank worksheets after the current, active, worksheet:

To process the DEPT table, programmatically:

- Activate the second worksheet,
- Seed the first row with the column headings,
- Place the cursor in cell A1 and copy the value to a temporary variable because we’ll use that cell to count the number of rows,
- Activate the Oracle connection, set the query against DEPT, and execute it,
- Place the cursor in cell A2 and copy the record set to the worksheet,
- Finally, determine how many records were returned and store the value in “count”; an assumption was made here that no more than 32,000 records would be returned.

To write the data of the DEPT query to a flat file that was previously defined and stored in the variable, “v_dept”:

- Open the dept file for output
- Open v_dept For Output As #1
- MsgBox ("Opened " & v_dept & " For Output ")
Similar to getting the data from DEPT, process the EMP table programmatically:

- Activate the third worksheet,
- Seed the first row with the column headings,
- Place the cursor in cell A1 and copy the value to a temporary variable, again we'll use that cell to count the number of rows,
- Activate the Oracle connection, set the query against EMP, and execute it,
- Place the cursor in cell A2 and copy the record set to the worksheet,
- Finally, determine how many records were returned and store the value in “count”; an assumption was made here that no more than 32,000 records would be returned.

To write the data of the EMP query to a flat file that was named and stored in the variable, “v_emp”:

- Open the Output File for writing,
- Loop through the record set to get each row of data,
- “Print” out the line of data to the flat file,
- When finished looping, close the flat file
All the data has been retrieved and written to the two files.

It’s time to:

- Close the database connection,
- Delete the temporary worksheets used,
- Place the cursor back in the main worksheet, spreadsheet is ready to run again

```
Open v_emp For Output As #2

' Loop through all the records in the worksheet and write them out, delimited
For MyRowNum = 1 To count + 1 Step 1
    If MyRowNum = 1 Then
        v_empno = v_holdit
    Else
        v_empno = CStr(Worksheets(3).Cells(MyRowNum, 1).Value)
    End If

    v_ename = CStr(Worksheets(3).Cells(MyRowNum, 2).Value)
    v_job = CStr(Worksheets(3).Cells(MyRowNum, 3).Value)
    v_hiredate = CStr(Worksheets(3).Cells(MyRowNum, 4).Value)
    v_sal = CStr(Worksheets(3).Cells(MyRowNum, 5).Value)
    v_comm = CStr(Worksheets(3).Cells(MyRowNum, 6).Value)
    v_deptno = CStr(Worksheets(3).Cells(MyRowNum, 7).Value)

    Print #2, v_ename & ConCatChar; v_job & ConCatChar; v_hiredate & ConCatChar; v_sal & ConCatChar; v_comm & ConCatChar; v_deptno
Next

' Close the EMP File
Close #2
' = End EMP ================
```

Above, you’ll notice a couple new, unique, things. First, after the database connection is closed, the “DisplayAlerts” is set to “False” in order to suppress any popup messages, like when you try to close a worksheet and the application asks if you would like to, “...save the changes...” that have been made or not. Then the two temporary worksheets that were used to store the data temporarily are deleted. Notice the “Delete” commands are deleting worksheet number 2 twice. The first time it deletes the worksheet that stored the DEPT data. As the comment suggests, after the worksheet is deleted, all subsequent worksheets shift one (1) reference number lower. Therefore worksheet 3 (EMP data) becomes worksheet 2, which is then deleted as well. After the worksheets are removed, the “DisplayAlerts” is turned back on, the cursor is placed back on the main worksheet in cell A1.

You could end here with the spreadsheet back in its original format, ready to run again, and having the data files created. However, sometimes we need to do things with the data files that were created, like email them or place them on a shared drive, etc. The continuation of the macro will show an example how to call out an operating system (OS) command that uses these files. In our example, we’ll archive the files using a program callable from the command line, particularly we’ll use the “7-Zip” compression/archiving software tool which is similar to WinZip (see the bottom of this paper for more information on 7-Zip – you’ll need to have it installed to use this code “as-is”):

- Build the command line and place in a string variable (you can put your own OS command here),
- Seed the Result with a “False” value,
- Call the “ShellWait” procedure to execute the 7-Zip program and wait for it to complete before proceeding - this is done to avoid having the programs run asynchronously,
- Check for any errors while calling out “ShellWait”,
- After the files are compressed into an archive, remove the original files using the “Kill” command,
- And finally, let the user know, via a pop-up message that the program has completed

```
' == 7-Zip Example ===========================
' Use “7-zip” to create and add the two newly created files to archive file. Check out HELP on Command Line Syntax
VhExporterCmd = “C:\Program Files\7-Zip\7z.exe a -tzip “ & v_zip & “*.txt”
ExportResult = False

ExportResult = ShellWait(VhExporterCmd, INFINITE, vbMinimizedNoFocus)
' MsgBox (“Return_Cmd2Execute = “ & Return_cmd2execute)
' == End 7-Zip Example =======================
If Not ExportResult Then
    MsgBox (“An Error Occurred with the compression”) Else
    MsgBox (“Compression Complete”)
End If

' Remove the .txt Files that were put into .zip file, uses “Kill” Kill v_zip & “*.txt”
' Tell the User that the Extract has been completed.
    MsgBox (“Spreadsheet Has Been Created, Press [OK] To Finish.”)
End Sub
```
This block of code was put in specifically to support “synchronous” processing of the program units. If we had just used the standard “Shell” command from VB, the 7-Zip callout would be a spawned process and this macro would continue on at the same time. Do you see the problem with that? Yes, there is a definite possibility of removing the .txt files prior to them all getting into the archive.

In case you’re a WinZip shop, here’s a way to use that tool instead of 7-zip. You would simply use this block of code instead of the 7-Zip string assignment and call to ShellWait. I discuss this, below, in the section below titled, “About 7-Zip”:

This WinZip example returns the PID of the spawned program to execute WinZip.

The only thing left is to show you the code for the “ShellWait” program, this would be located at the bottom of the VB script after the “End Sub” for the Process_Oracle_Request procedure. Details on where I borrowed this code are listed below in the section titled, “About the “ShellWait” Function.” Again, this procedure is called, passing in a command to execute and “waits” for the command to complete before returning the status to the main calling procedure:

That’s all you need to know to start getting your data from your Oracle database and create Excel or other types of files on a workstation.

Save your work. Add the same password type protection and “hot-key” for the user as we did for the first file, and you’re once again ready to distribute this spreadsheet.

Here’s what it looks like when it runs, Press [Ctrl+d] to start the macro:

Press [OK], then asked for the delimiter:

I changed it to a pipe:
Before I pressed [OK], I took a look at my c:temp\rmoug directory to see what files I have there (none):

Back to the spreadsheet and press [OK]. This is when the macro really kicks in and starts to communicate with the database. Going over a VPN and network, pulling the data back, writing the data to the files, and compressing them into an archive took about 2 seconds with my configuration. You’ll notice, above, I left this message box in the code to state when the compression completed:

```vbnet
If Not ExportResult Then
    MsgBox (“An Error Occurred with the compression”)
Else
    MsgBox (“Compression Complete”)
End If
```

This produced the correct result:

You can comment out the “Else” and subsequent “MsgBox” lines if you don’t want to be notified when it was successful. Next, the final message is displayed stating that it is all done:

Press [OK], and you’re back to the original spreadsheet. Let’s see what’s in the c:temp\rmoug directory now:

Let’s open up the archive, .zip and have a look at the contents:

Notice the filenames were created, as expected, grouping them together by the prefix and date. Now let’s look at the data itself:

Before I pressed [OK], I took a look at my c:temp\rmoug directory to see what files I have there (none):

About 7-Zip
I used 7-Zip version 4.65. It’s freeware, however you should see http://www.7-zip.org/license.txt for details and the GNU LGPL + unRAR restrictions.

It supports a variety of compression formats. As described by the creators, “7-Zip is a file archiver with a high compression ratio. The program supports 7z, ZIP, CAB, RAR, ARJ, LZH, CHM, GZIP, BZIP2, Z, TAR, CPIO, ISO, MSI, WIM, 2NSIS, RPM and DEB formats.”

The version I used is downloadable at: http://sourceforge.net/projects/sevenzip/files/7-Zip/4.65/7z465.exe/download

About the “ShellWait” Function
Having to overcome the issue of compressing the text files into a single archive seemed relatively easy. What I was not expecting was that after issuing the 7-zip command, followed by the command to delete the files, the new .txt files never made it to the archive. Why? I was initially using the “Shell” command. When a “Shell” command is executed from VB, it is spun out as a separate process and does not wait for the completion of that process before continuing on (runs asynchronously). The return value from the “Shell” command is the Process-ID that gets created. Therefore, by the time the 7-zip command got running, the delete (“kill”) command had already removed the .txt files from the OS. So, the next thing, of course, was to find what parameter could be passed to the “Shell” command to make it wait for completion. Ah, now why would Microsoft not offer that as a standard parameter? I don’t know either, but they don’t! So on to solve the problem.

I turned, as I usually do, to my expert research team, located at www.google.com, for the answer. Searching for “VB Shell Wait” I was returned with ~284,000 results — ah, I must not be the only one out there looking for this information. After a few clicks, I found a

On a side note, the example in the code for sample_macro2.xlsm using WinZip instead of 7-zip does not use the ShellWait because of the option “-m” which actually “moves” the data file into the zip archive, thus removing the original file(s) from the OS in the same call. Be careful if you use this though, if you have a significant amount of files being added to the archive, the VB Macro will complete prior to all the files getting added so you’ll need to check the working directory for files before you do anything with the .zip. Using that “-m” option will move the files into the archive, therefore, when no more .txt files are in the working directory, you know the process is completed. If you’d rather circumvent this action, use the ShellWait as we did for 7-zip.

Mark grew up in the southern part of New Jersey and attended Rutgers University receiving a BA (Computer Science major, Business minor). He took his first Oracle class in 1989 and has been in the field ever since. After a few years on the East coast, then in Texas, Mark came to Colorado (1993) and quickly heard about, and joined, RMOUG. He gave his first “Training Day” presentation in 1995, and has previously served on the RMOUG board in different capacities. His most recent focuses have been with Oracle Applications, the DW/BI area, and integrating imaging solutions. Mark started MODE Technical Solutions, Inc. in 1997 and lives in Morrison, CO with his wife of 15 years and 5 children (11 yrs, 9 yrs, 9 yrs, 9 yrs, and 9 yrs … no, that’s not a typo!).

---

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*Performance Estimate is the Ideas International Relative Performance Estimate v2 (RPE2). This estimate is operating system neutral. Server, Software, Oracle and Support costs are estimates.
Index Quality
By Dan Hotka

What is Index Quality

Oracle will always use an index on single row lookups. Traversing the b-tree or bitmap structures and pointing at a single data block is straight forward and has a very predictable amount of physical I/O to accomplish the task.

Oracle performs quite a number of index range scans (attend my sessions on Understanding Explain Plans) based on SQL code or data that includes:

- Repeating values (data)
- Between clauses (where clause)
- Greater than (where clause)
- Full Index Scans (explain plan items)
- Fast Full Index Scans (explain plan items)

These scans look at many index leaf entries and the associated ROWID is then requested.

This is an efficient operation as long as the range of values is smaller and/or the index and the underlying table are in somewhat the same physical order.

Clustering factor is a CBO statistic.

When Oracle is collecting index statistics, among other things (like repeating keys, etc), Oracle increments clustering factor by 1 every time the block# changes in the leaf row ROWIDs.

This means that the more the block# repeats, the more the index is in the same sequence as the indexed data in the table.

Clustering Factor:

- LOW – closer to the number of blocks in the table
- HIGH – closer to the number of rows in the table

The higher the clustering factor, the less likely that Oracle will use the index on a range scan operation. In fact, if clustering factor is 20% towards the number of rows in the table, then Oracle is not likely to use the index on range scans or full index scans.

This clustering factor can be manually adjusted using DBMS_STATS.SET_INDEX_STATS but this is not a recommended procedure.

What Affects Clustering Factor

The order of the data has the largest effect on clustering factor.

The higher the clustering factor (the more clustering factor gets to number of rows, even as little as 10% of the rows), the more Oracle will consider other indexes or simply do a full table scan instead of using the index.

ASSM, discussed in the advanced part of my SQL Tuning course, illustrates how a new tablespace option implemented in Oracle10g+ has a negative effect on clustering factor. Multiple free lists and RAC have this same side effect on index clustering factor.

You can use DBMS_STATS.Set_Index_Stats to adjust clustering factor. You would have to setup a test to see just how much ASSM, RAC, and multiple free lists affected clustering factor and use a PL/SQL routine perhaps after statistics are run to adjust it properly. This number is VERY data dependent and adjusting the clustering factor is beyond the scope of this course...

Monitoring Index Quality

Index Info.sql

![Index Info.sql](image)

www.danhotka.com
Index_Info.sql shows the indexes, row and block stats and clustering factor. The index quality column uses the above-mentioned grid for its decisions. You might notice slightly different behavior. The higher the clustering factor, the less likely Oracle will be to use this index for a range scan operation. It's that simple.

This script makes some assumptions:

- Excellent index is 0 to 5% clustering factor
- Good is < 10%
- Fair is < 20%
- Poor > 19%

Index quality is an important concept to understand in both application design and to answer the question of “why didn’t Oracle use my index?”.

My SQL Performance Tuning class has a very interesting half-day lecture on indexes, how they are created, how Oracle uses them, when they are not used and why, and how 10g+ tablespace options has an adverse effect on index utilization.

Dan Hotka is a Training Specialist who has over 31 years in the computer industry and over 26 years of experience with Oracle products. He is an internationally recognized Oracle expert with Oracle experience dating back to the Oracle V4.0 days. Dan’s latest book is the TOAD Handbook by Pearson. He is also the author of SQL Developer Handbook by Oracle Press, SQL Developer Handbook by Oracle Press, Oracle9i Development By Example, and Oracle8i from Scratch by Que and has co-authored 7 other popular books including the Database Oracle10g Linux Administration by Oracle Press. He is frequently published in Oracle trade journals, and regularly speaks at Oracle conferences and user groups around the world. Visit his website at www.DanHotka.com. Dan can be reached at dhotka@earthlink.net.

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Contact Dan at: www.DanHotka.com
Dhotka@Earthlink.net - (515) 279-3361
Please allow me to introduce myself. My name is Bern Bray and I am an Oracle Database Administrator and Nature Photographer. When I submitted a photo for the cover of this addition, the newsletter editor said that I seemed to be an interesting person, and asked me to write an article about myself. Since the terms “interesting” and “Database Administrator” are seldom used in the same conversation, I thought that I would give it a go.

First the really important stuff. I’m married to my high school sweetheart, and this June we will celebrate our 30th wedding anniversary. We have a beautiful daughter, who, after attending a “Take Your Daughter To Work” day, swore that she would never be an engineer. She is now a GIS Analyst in Florida, so her dad gets the last laugh. We also have a wonderful son who is severely learning disabled and lives with us. Even with his disabilities, he earned his Eagle Scout rank in the Boy Scouts of America, an accomplishment that makes his father very proud. We are all very active in Special Olympics and the disabled community.

Like many old school DBA’s I tripped into database administration somewhat by chance. I went to school for Electronic Engineering Technology, and my first job was in test and measurement. In the process of testing inductors and thick film hybrids, you get introduced to the world of data collection and reporting. Just to date myself, this was the era of eight-inch floppies, dumb terminals, and 64K memory, and you can imagine the limitations! Being that “old school” means that you have tons of useless information at your command, but very few brain cells left for important stuff, like say, your kid’s names. In fact, just this week I found myself instructing a 30 year old on the intricacies of a null modem serial cable, after leaving my carefully prepared cup of coffee sitting at home on my kitchen table.

I was introduced to the Oracle Database as part of a test measurement collection system exactly 20 years ago. My first task as a newly minted and untrained DBA was to upgrade Oracle 5 to Oracle 6. Having had experience with a file based paperless repair and reporting system, I was fascinated with the power of what I now had available. I began to learn how to make use of the database and customize the top level application. I got so good at finding bugs in the top level application, that the supplier hired me, and I’m pretty sure they hired me just to get rid of the customer complaints.

Along the way I’ve worked for GTE Automatic Electric, StorageTek, Derby Associates International, Maxtor, and now for Kroll Factual Data. My current job responsibilities are: Senior Database Administrator, E-Business Suite Administrator, and was recently crowned the Linux Administrator, because apparently management just didn’t think I had enough to do. KFD currently runs 2 production database clusters and a half dozen QA and Development clusters. The production databases are both 3 node RAC systems, one for OLTP and one for the E-Business Suite. I recently migrated the OLTP system from Windows to OEL5, and I am in the process of converting our RHEL4 systems to OEL5. Also on the task list for the year are: upgrade Discoverer 4i to Discoverer 11gR1. Upgrade the databases from 10.2.0.3 to 11gR2, and start looking at E-Business Suite R12 for next year. That’s just the stuff I know about. If I can keep management from coming up with new ideas, I might even get most of it done.

Like many younger engineers, my early days found me doing technical stuff on my own at night. It paid off, as I was able to advance in my career and choose what I liked to work on. Several years ago I started to feel that my life was out of balance. If I wasn’t doing something technical during my off time, then I was playing computer games. I felt burned out and I felt like I needed to find something that would stimulate my brain, but in a different way than work. Hopefully, it would be something away from the computer screen.

It was on a vacation to Yellowstone National Park that I found that I really enjoyed taking good photographs. At the time, I didn’t take good photos very often, but when one just “happened” it was fun. I guess this was my “voila” moment. I decided that this was the track that I would take.

Now, naturally I’m a left brainer, and a complete idiot at anything artistic, so it’s been somewhat of a struggle. I have had to train my brain to think of things artistically. I started by going to the places and train my brain to think of things artistically. I started by going to the places and

Bern Bray with his wife Gale
of thousands of bad slides that I still can’t 
seem to part with. I read a couple of books, 
notably John Shaw’s Field Guide to Nature 
Photography. I also looked at other photog-
raper's work that I liked. When I looked 
at others work I not only tried to find out 
where it was, but really tried to determine just what it was about the photograph 
that I liked. Eventually, consciously and 
subconsciously I began to incorporate those 
techniques in my own photography. I still 
continue to learn, and that is the wonderful thing about the endeavor; there is always something new to learn. These days I’m not satisfied with taking photographs that everyone else takes. I just can’t force myself to stand shoulder to shoulder with a thou-
sand others like me to get that fall picture of Maroon Bells. I still go to the popular places because the photos still sell, but I try to find a different view than the usual. I have also had to learn self criticism. It’s a hard talent to develop to self edit without being too critical.

Normally, I’m very cautious about putting myself “out there”. However, when I got interested in photography, I wanted an impetus to force me to get better. I cre-
ated a web page and starting doing local art shows. I did shows for about 5 years, but am taking a couple of years off due to the economy and so that I can concen-
trate on the art. My art was in a couple of stores in Longmont and in Colorado Mills Mall. I was doing well in those stores but the downturn in the economy caused the stores to close. Currently, I have a few pieces in Lincoln Gallery in Loveland Colorado. I have my web page at www.BrayPhotography.com. And I have a Facebook presence under “Bern Bray Fine Art Photography”. If you become a fan of the Facebook page, you will see where I have been shooting, and see some things that I may or may not put up for sale.

Well, that’s my story and I’m sticking to it. Right about now, you are wonder-
ing why you read this entire article. I will try to pay it off with this little nugget of 
wisdom: Work hard during working hours, but at quitting time, put the keyboard 
down and walk away. Go do something completely different. That work will still be there tomorrow, but your family and life won’t wait. You will be fresher and a better worker when you come back in the morn-
ing. Besides, everyone knows that you get your best ideas in the shower.

Tell Us About Yourself

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Please submit all material to 
NewsletterDir@rmoug.org or phone 
Pat Van Buskirk (303) 621-7772
My name is Carolyn Fryc and I am the new Programs Director on the board of RMOUG.

A little about me: I am native to Colorado and a first generation American. My parents emigrated from Czechoslovakia in 1969. All of my extended family still lives in the Czech Republic and/or Germany. My parents first settled on the East Coast, then after being in American for only five years, they made the move with my older sister to Colorado in 1974. My dad loved the outdoors and fell in love with what Colorado had to offer. Whether it was fishing, camping, hiking or skiing, he loved it all! I spent most of my childhood camping, fishing or skiing. I still love the mountains and try to get up there any chance I get. I grew up in Broomfield, CO and now currently live in Lakewood, CO. I love any opportunity that allows me to visit Europe and visit with my family. I speak Czech, but understand it better than I speak it now. I love to travel overseas or in the states. I took my daughter for the first time in June of 2008 and visited both the Czech Republic and Germany. What beautiful countries. Wish it were closer than a sixteen-hour plane ride.

My daughter Izabela is eight years old, finishing up the third grade this year and more than excited to go in to the fourth this fall. She is my little dancer and has enjoyed being in Ballet/Tap/Jazz since the age of two. My daughter is the epicenter of my universe, and I work very hard to find a work/life balance so that I can maximize my time with her, as well as spend time with my mother in Golden.

I worked in Telecommunications during the boom back in 2000/2001 working for both Rhythms NetConnections and then High Speed Access. After having Izabela in the same year, I decided to get out of the Information Technology field. I changed careers and went into working as an Account Executive for a motorcycle consulting firm. This was a complete change from the high tech field I was in the years prior. I decided to leave the motorcycle consulting firm in February 2005 and took a position...
working with a small consulting firm specializing in Enterprise Resource Planning (ERP) staffing. The firm specialized mostly in PeopleSoft staffing. Initially, I felt like I was reading braille and speaking Spanish, with all of the new terminologies and acronyms used. After only working there for two weeks they decided to send me to my first Oracle OpenWorld in September of 2005. Wow, that was one of biggest conventions I had ever been to. Being new in the industry and mostly focused on PeopleSoft Applications, I had no idea Oracle offered so many more products. I was helping man the booth and remember trying to get myself acclimated to all that was going on around me. I also remember the theme for the OpenWorld that year was Fusion. Fusion was the biggest thing back in 2005. It was all over the streets of San Francisco.

That same year I had two gentlemen pass by the booth I was manning. They had a few Oracle Application requirements they were looking for assistance with. That is when I was first introduced to Oracle EBS. Those two gentlemen manage the firm I now represent. I’ve been working with Optima Resource Services since May of 2006 as an Account Manager. Optima Resource Services started back in 2002 after the President left Oracle Consulting Services to leverage his network of contacts built from over 20 years of staffing. What I like the most about working at Optima is the ability to wear multiple hats. Oftentimes I will work with the customers to define requirements, then collaborate with our Solutions Architects to design a solution from an applications and/or staffing perspective, then work with our recruiting team to find the right resources to staff the project. Having this 360-degree view of the business has been enormously beneficial in helping my personal development in understanding what customers actually need, as well as helping me to comprehend the complexity of the solutions that we are designing. I love to solve problems, so working with Oracle products is a great escape for me, as there are a dozen potential solutions to every business need in the Oracle product family. The solution diversity offered by Oracle makes every problem more interesting, whether it’s ERP, CRM, HCM or BI – there are many options to consider, which is what excites me about my job. I feel like every day is a great learning experience and that makes it easy to be motivated to do a good job and provide exceptional service to our customers. Having now been in the industry for over 5 years, I have found myself to be quite knowledgeable in the latest technologies and consider myself a professional relationship builder. I am committed to building solid relationships with customers and consultants and helping them leverage Oracle solutions. I am very excited to be on the RMOUG board. I love to share new ideas as well as hear how other people are solving problems, so that I can continue my professional evolution and continue to learn how Oracle products can optimize business processes through automation.

Editor’s Note: Look for Carolyn’s opening announcements on misc@list.rmooug.org. To subscribe to RMOUG’s mailing lists, contact heidikuhn@rmooug.org. You may contact Carolyn at:

cfryc@orsportal.com

Optima is looking for a local technical resource with experience implementing Standard Labor Rates within Oracle. This will be done in Oracle Payroll, integrating into Oracle Project Accounting/Billing. Should have experience with:

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- Deployment plan template - Document the steps necessary to introduce this into our environment.
- Support plan template – Define roles and resources to effectively support this new process.
- Training plan template - Define set of training (by defined role) we need to support this product long-term.
- Define all systems affected within our Oracle (PA, HR, etc.) integration with existing environment.
- Define additional modules needed to implement this process such as accounts receivable and project billing, etc. if applicable.
- Thorough knowledge and understanding of PL/SQL, SQL, Java, workflow and Web development tools and techniques.
- Demonstrated experience developing applications and working on relational database management software and systems.
- Ability to analyze requirements and rapidly model and prototype applications.
- Solid application design, analysis, coding, testing, maintenance and debugging skills.
- Good project management and excellent customer service skills.

US Citizen or Green Card Holders only.
2 month plus contract located in Golden, CO.
If interested, please forward a current copy of your resume with salary requirements to:

Carolyn Fryc, Account Manager
Optima Resource Services
720-221-4432 (desk)
303-912-0710 (mobile)
720-293-7417 (fax)
cfryc@orsportal.com
www.orsportal.com
Application For Membership

[ ] Individual...$75  [ ] Student (must have Student ID)...$35

Name ____________________________________________
Company Name ___________________________________
Address __________________________________________
City, State, Zip _____________________________________
Phone ___________________________________________
Fax _______________________________________________
E-Mail ____________________________________________

Payment Method  Total $ ___________________________

[ ] Check/Money Order (Make payable to Rocky Mountain Oracle User’s Group)
[ ] Visa Card # ________________________________
[ ] MasterCard# ________________________________
Name on Credit Card ______________________________

Corporate:
[ ] 1-5 Members _________________________________ $300
[ ] 6-8 Members _________________________________ $450
[ ] 9-12 Members ________________________________ $595

Additional members (over 12) $50 each

Please attach list of all members.

Corporate Contact:
Company Name ___________________________________
Contact Name ______________________________________
Address __________________________________________
City, State, Zip _____________________________________
Phone ___________________________________________
E-mail ____________________________________________

Please mail completed form and payment to:
Rocky Mountain Oracle Users Group
PO Box 621942
Littleton, CO 80162

FAX: (303) 933-6603
Or Join Online:
http://www.rmoug.org/member.htm

What Is RMOUG?

The Rocky Mountain Oracle Users Group (RMOUG) was established in 1984 with just a few members. Meetings were held twice-a-year to share ideas and information about Oracle. Today, RMOUG is one of the largest Oracle user groups in the world with over 1,000 members.

RMOUG offers general membership meetings, a professional magazine, an annual training event, and an information-packed web site. Members include professional analysts, project managers, database administrators, developers, and designers who work with Oracle products to produce high-quality business solutions.

RMOUG is an alliance partner with the International Oracle Users Group - Americas. RMOUG is a not-for-profit organization incorporated in Colorado.
Reach A Targeted Oracle Audience
Advertise Now!

A full page, full color ad in RMOUG SQL>UPDATE costs as little as 70 cents per printed magazine and even less for smaller ads.

RMOUG SQL>Update Advertising Rates

<table>
<thead>
<tr>
<th>Type</th>
<th>Cost</th>
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<tr>
<td>Business card or 1/8 page</td>
<td>$ 50</td>
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<tr>
<td>1/4 page</td>
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<td>Inside cover</td>
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Discounts available for RMOUG Members and Full Year Contracts

See Media Kit for deadlines and mechanical requirements.
Submit ad materials to: Pat Van Buskirk, RMOUG Newsletter Director
38101 Comanche Creek Road • Kiowa, CO 80117
303-621-7772 • E-mail: NewsletterDir@rmoug.org • www.rmoug.org

SQL>UPDATE is mailed to over 1,000 RMOUG Members and distributed during Quarterly Education Workshops and Training Days each year.
President

Peggy King, King Training

Business: (303) 798-5727
Business: (800) 252-0652
E-mail: President@rmoug.org

Peggy King has been managing Partner of King Training Resources since 1992. Her previous background includes securities, banking, and paralegal. Peggy has volunteered in several roles. They include: Training Days Director for 2004 and 2005; RMOUG Training Days; IOUG-A Live!; and, several years at other conferences serving on the Finance and Web committees for IOUG.

Administrative Assistant

Heidi Kuhn

Voice Mail: (303) 948-1786
Fax: (303) 933-6603
E-mail: Admin@rmoug.org

Heidi Kuhn began working for the Rocky Mountain Oracle Users Group in 1997, when there were less than 1,000 members. She has been delighted to watch the membership grow to over 1,300 people. Currently she is still managing the membership database, which includes updating member names, addresses, and payment records.

IS Director

Tim Gorman

E-mail: ISDir@rmoug.org

Tim began his IT career in 1984 as a C programmer on UNIX and VMS systems, working on medical and financial systems as an application developer, systems programmer, and systems administrator. He joined Oracle Corporation in 1990 and became a technical manager in Oracle Consulting and has been an independent consultant at Evergreen Database Technologies (http://www.EvDBT.com) since 1998. He specializes in performance tuning applications, databases, and systems, as well as data warehouse design and implementation, backup and recovery, architecture and infrastructure, and database administration. He has been an RMOUG member since 1993 and a member of the RMOUG board from 1995-2007 and 2010 - ???.

Tim is co-author (with Gary Dodge) of “Essential Oracle8i Data Warehousing” (2000 - Wiley) and “Oracle8 Data Warehousing” (1998 - Wiley). With the Oak Table (www.oaktable.net), Tim is co-author of the books “Oracle Insights: Tales from the Oak Table” (2004 - Apress), “Beginning Oracle SQL” (2009 - Apress), and “Expert Oracle Practices: Oracle Database Administration from the Oak Table” (2010 - Apress).

Membership Director

Barbara A. Lewis, PhD

Axia College of the University of Phoenix
Voice: 303-757-6709
Email: MembershipDir@rmoug.org

Barbara Lewis has been an RMOUG member for more than 5 years. For 18 months, she was a member of the Web Maintenance team while serving 12 months of that time as the team lead and Board Member-at-Large. She has served on the Board as the IS Director for the past year. Her technical career began 8 years ago as a Programmer Analyst, Tester and several years as an Oracle Database Network Administrator with a certification as an 8i OCP-DBA. She began teaching for the University of Phoenix in 1993 where she remains as an online IT/IS faculty member.

Newsletter Director

Pat Van Buskirk
National Radio Astronomy Observatory
Voice: 303-621-7772
Email: NewsletterDir@rmoug.org

Pat Van Buskirk has been an Oracle DBA since 1991 and is currently the DBA for the National Radio Astronomy Observatory in Socorro, NM. Prior to that, she was a mainframe programmer and Oracle Forms developer. She has acted as project manager for applications in manufacturing, insurance, education, research and education. Her hobby is horses and she is currently on the Board of Trustees, plus volunteers her DBA and web skills to the Centered Riding Organization in Perkiomenville, PA.
**Programs Director**

**Carolyn Fryc**  
Optima Resource Services  
E-mail: ProgramsDir@rmoug.org

Carolyn Fryc has been a member of RMOUG since 2008 and has been working with Oracle Technologies for 5+ years, designing business solutions, providing staffing services and overall working with customers to help achieve a greater value from their IT investments. Carolyn has a deep desire in helping customers improve their business processes, as well as streamline their operations, whether it’s through software, staffing or solution design.

**Secretary**

**Allison Leech**  
E-mail: Secretary@rmoug.org

Allison has 18+ years of Oracle leadership experience developing custom based business application solutions. She also has experience in the role of problem management and resolution for a local satellite communication provider as well as providing support and administration for the delivery of an enterprise Learning Management System. Her current responsibilities include development and support of a large integrated resource tracking application with the USDA Forest Service.

**Sigs Director**

**Brad Blake**  
E-mail: SigsDir@rmoug.org

Brad Blake has been an RMOUG member since 2000, and served on the Board in 2009. He received his Bachelor Degree from Colorado State University in 1995, and went on to pursue an MSCIT degree from Regis University, with an emphasis in Database Technologies. He has been an Oracle DBA for over 10 years, most of which has been in the Biotech industry. He currently works for Celgene Corporation, a global biopharmaceutical company that focuses on oncology and hematology. He is also an Affiliate Faculty member for Regis University, teaching online courses in the graduate program since 2001, in the Database Technologies area. In 2006, he was awarded with the “Excellence in Teaching” award from Regis.

**Training Days Director**

**Ron Bich, SofTec Solutions, Inc.**  
Phone: 303-650-6951  
E-mail: TrainingDaysDir@rmoug.org

In 1997 I joined RMOUG as an active non-corporate paying member of RMOUG and became an active volunteer in 2000. The positions I have held on our Board of Directors are Director of IS, President and Director of Membership. Other volunteer duties I have done since becoming an active volunteer include Training Days registration/track coordinator, Presenting, Board Member at Large and Newsletter Mailings. My career in IT began in 1990 and I was later introduced to Oracle 7.3 in 1995. After my initiation into Oracle my experience has expanded through a variety of industries, Oracle versions, development platforms and development/maintenance teams supporting a variety of custom and purchased business applications.

**Vice President & Treasurer**

**John Peterson**  
E-mail: VicePresident@rmoug.org

I have been interested in Computers and It, since my best friend in High School logged me into a teletype printing Terminal computer in 1969. Have been doing IT since 1981 as a Cobol programmer, since then worked as a Systems Analyst, Programmer/Analyst, Sql*(forms, reports, oem, oam, developer/designer, tools), Oracle Developer, Oracle DBA, Oracle Applications DBA, OS Systems Administrator, College Lecturer in Business and Computer Science, internet implementation, Client Server/DBA Mgr, W2 Consultant, Sr. Oracle DBA currently Oracle RDBMS/EBusiness Suite, Experience with SungardHE(SCT Banner, Peoplesoft, Oracle ERP systems 10.7nca thru 11i, Oracle Rdbms versions 5,6,7,8,9 and 10).

**Board Member Emeritus**

**Kathy Robb**  
Arisant, LLC  
E-mail: Treasurer@rmoug.org

Kathy Robb has been involved in Oracle technology since Oracle RDBMS 5, serving in a variety of capacities, including database support and administration, management, consulting and technical training. With over 20 years of Oracle-based experience, Kathy has worked with multiple Oracle technologies, particularly with Oracle Applications and Oracle Database. Kathy has a wide-ranging knowledge of technologies and support her customers in all areas of architecture, implementation and support. Kathy is a co-founder of Arisant, LLC a Colorado company and Oracle Partner.

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Not Pictured: Thomas Green, Scholarship Director  Email: ScholarshipDir@rmoug.org
RMOUG Events Calendar

6/15/10 Scholarship Scholarship - Accepting Applications for Winter Scholarship

7/12/10 QEW QEW - Call for Presentations
7/15/10 Board Board Monthly Meeting - Corporate Offices @ 6:00pm
7/22/10 TD Training Days 2010 - Call for Presentations
8/6/10 QEW QEW - Preliminary Agenda
8/13/10 QEW QEW - Deadline for Presentations
8/16/10 NL Newsletter - Mail Summer Issue
8/20/10 QEW Quarterly Educational Workshop
8/20/10 Board Board Meeting @ 7:00am before first QEW session
9/6/10 NL Newsletter - Call for Articles Fall Issue
9/15/10 Board Board Monthly Meeting - Conference Call @ 5:30pm
9/15/10 Scholarship Scholarship - Deadline for Applications for Winter Scholarship
9/19/2010 - 9/23/2010 Conference Conference - Oracle Openworld/Java One - Moscone Center, San Francisco
9/24/10 TD Training Days 2010 - Presentation Abstracts Due
10/1/10 NL Newsletter - Deadline for Articles Fall Issue
10/5/10 QEW QEW - Call for Presentations
10/13/10 Board Board Monthly Meeting - Corporate Offices @ 6:00pm
10/15/10 QEW QEW - Preliminary Agenda
10/17/10 NL Newsletter - Mail Date Fall Issue
10/22/10 QEW QEW - Deadline for Presentations
11/2/10 NL Newsletter - Call for Articles Winter Issue
11/8/10 TD Training Days 2010 - Early Registration begins
11/12/10 TD Training Days 2010 - Speaker confirmation due
11/16/2010 - 11/17/2010 Conference Conference - OAUG Connection Point - enterprise performance Management (EPM) - Dallas,TX
11/19/10 TD Training Days 2010 - Schedule at a Glance Posted to website
11/19/10 Board Board Meeting @ 7:00am before first QEW session
11/19/10 QEW Quarterly Educational Workshop
11/19/10 Scholarship Scholarship - Announce Winter Scholarship recipients at QEW
11/26/10 NL Newsletter - Deadline for Articles Winter Issue
12/8/10 Board Board Monthly Meeting - Conference Call @ 6:00pm
12/17/10 NL Newsletter - Mail Date Winter Issue

Please note the dates are subject to change. For the most current events calendar visit our website www.rmoug.org.

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Yannick LeRolland
Software Support
Computer Consultant
Systems & Network Administration
720.840.1965
7152 Cerney Circle
Castle Rock, CO 80108-3402
Yannick_lerolland@live.com
Join us for our next Quarterly Education Workshop in August at the Regis University Science Ampitheatre. RMOUG hosts quarterly workshops in May, August and November of each year with the fourth and largest educational event being Training Days in February. Learn about the newest technologies, gain more insight into Oracle techniques and enjoy the camaraderie of meeting with other Oracle professionals.

If you or your organization are interested in partnering with RMOUG to host an upcoming meeting, or to submit an abstract for presentation, please contact

Carolyn Fryc, Programs Director at ProgramsDir@rmoug.org

Watch RMOUG’s Web Page for August Training Topics

www.rmoug.org
Envisioning A Better Future and Designing Technology To Create It...

Oracle
- E-Business Suite implementation, upgrades, migrations, and support
- Fusion Middleware and Open Systems Development
- Business Intelligence (OBIEE) development
- Hyperion Financial Performance Management
- DBA and Database tactical services

IT Infrastructure
- Managed Services, Remote DBA support, and Hosting (Infrastructure & Applications)
- BI Rationalization (consolidation) services and tools
- Security and Identity Management
- IT Infrastructure Performance, High Availability, and Scalability implementation and support
- Strategic Global Sourcing

Profitability and Cost Management
- Budgeting and Forecasting Solutions
- Operational Intelligence (BI)
- ERP Business Intelligence
- Enterprise Performance Management

Rolta Software Solutions
- iPerspective™ - Rapid development of Enterprise Web Services
- Geospatial Fusion™ - Enterprise Spatial Integration and Visualization
- OneView™ - Business and Operational Intelligence