Jordan Braunstein
The Essential Cloud Integration List

Ruslan Dautkhanov
Oracle's Write Consistency

Jed Walker
Making Plans With Oracle 11g

Bill Wimsatt
IT Investment Management

Board Focus - Ron Bich
Member Focus - Lisa Collelt
**RMOUG DBLabs**

**Presenter**  
Darl Kuhn  
Regis University Affiliate Professor

**Lab Session**  
Tuesday, July 12th, 6:00pm to 8:00pm

**Lab Hours**  
Open 5:30pm to 8:00pm  
We will need to close the lab at 8:00pm.

**Location**  
Regis University, Carroll Hall, Basement Level,  
Rooms C17 and C19

The focus of the next meet-up will be Oracle’s automatic SQL tuning features. The following tools will be covered:

- Automatic SQL Tuning  
- SQL Tuning Advisor  
- SQL Tuning Sets  
- SQL profiles  
- SQL Plan Management (plan baselines)

First we’ll discuss each of the prior options and how they interoperate. Then you’ll learn how to enable and leverage each of these tuning tools through a hands-on lab. You will use SQL and standard PL/SQL packages to work with and manage these features.

**Information & Registration**

http://www.meetup.com/RMOUGLabs/events/19570781

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**Be Sure To Attend The**  
Summer Quarterly Education Workshop  
**August 19, 2011**

RMOUG is seeking abstracts for this meeting. Presentations may include overviews, tips, techniques, testimonials, and lessons-learned. For abstract submission, we are seeking the equivalent of a proposal for the presentation.

If you or your company are interested in sponsoring breakfast for the workshop, please see page 11 for rates.

Sponsor the next QEW and receive an ad in SQL>Update at HALF the normal price.

**Please contact**  
Carolyn Fryc  
cfryc@orsportal.com

Check www.rmouug.org for the location, times and featured speakers
On the Cover:
While walking down 16th Street in Denver, just look over your shoulder to see this eye-catching view of the clocktower; A unique contrast to downtown.

Lisa Collett is a native Coloradoan from the Western Slope who enjoys photography on the side of a professional technical position. She travels world-wide, taking pictures along the way and is also active taking senior portraits. Read more about Lisa in the Member Focus of this issue.

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> Classes Start Soon.
From The President

A few years ago at the Training Days conference, Mogens Norgaard of Miracle A/S of Denmark (http://www.miracleas.dk) gave a keynote address which began (roughly paraphrased)...

Good morning.
You ...are all... beautiful people.
But... you are... the SAME beautiful people... as I saw here... last year... at this very same conference.
Let's face it -- not only are we all getting older, but our profession is not renewing itself with young people to take our places when we've gone.
This is a serious problem.
What do you suppose we shall do about it?

Listening to him, I felt equal mixes of disbelief, dread, and wonder...
Disbelief -- because at that moment we had a dozen teenage high-school students from Pine Creek High School in Colorado Springs also listening to his speech. If they don’t represent the future, then who does?
Dread -- because I had noticed similar things myself, and I recognized the fundamental truth in his words...
Wonder -- because I and others had been out celebrating with him the night before and I was amazed that he could deliver this insightful and topical speech off the top of a jet-lagged and painfully throbbing head, without notes or prompting...

As you can tell, his words have stuck with me, even as the painful throbbing headache has receded. Although RMOUG and the Training Days conference has grown more and more impressive and informative with each passing year, with better presentations and seminars from speakers and experts from Colorado and around the world, I do feel the sense that we are not renewing as quickly as we are retiring, and that my pool of colleagues is slowly shrinking, not growing. Worse, the word from the blogosphere and social networks is that RMOUG does not show much of a presence, even during the Training Days conference.

And yet that is only an impression, not proven fact. It might just be that those new colleagues are out there working, beyond our awareness, and RMOUG just needs to reach new audiences, spread our continuing education message through newer mediums, explore the effectiveness of social networking technology, and strive more to reach young and upcoming colleagues around us. Also, as the scope of Oracle Corporation has expanded to new databases (i.e. MySQL, BerkeleyDB, and others), into hardware (Solaris), new applications (i.e. PeopleSoft, JD Edwards, Retek, Siebel, Demantra, Primavera, and others), and broader technologies (i.e. Java, BEA, Fusion, and others), clearly RMOUG needs to expand beyond our core competencies as well.

RMOUG has just elected a new board of directors, and here and over the next year we’d like to share our ideas for bringing RMOUG into touch with the vibrant world of technology that is pulsing all around us. The RMOUG board of directors for 2011-2012 is...

- Ron Bich - director of information systems (ISDir@rmoug.org)
- Kellyn Pot’vin - director of membership and vendor relations (MembershipDir@rmoug.org and VendorsDir@rmoug.org)
- Carolyn Fryc - director of programs (ProgramsDir@rmoug.org)
- Brad Blake - director of special interest groups (SIGsdir@rmoug.org)
- John Jeunnette - director of Training Days 2012 (TrainingDaysDir@rmoug.org)
- Tom Green - director of scholarships (ScholarshipDir@rmoug.org)
- Pat Van Buskirk - director of newsletters (NewsletterDir@rmoug.org)
- Tim Gorman - president and treasurer (president@rmoug.org and Treasurer@rmoug.org)

In addition, the following members also serve in support of the board...

- Heidi Kuhn - executive director (admin@rmoug.org)
- Kathy Robb - board member emeritus (BoardME@rmoug.org)
- Peggy King - past president emeritus (PastPresident@rmoug.org)
- Ann Horton - liaison to Oracle Corporation (OracleLiaison@rmoug.org)
- Art Marshall - IS volunteer (ISMgr@rmoug.org)

...continued on page 20
Stan Yellott was larger than life. A big guy, he stood over six feet tall and had long hair with a bushy beard. His visionary ideas were always accompanied by a gigantic laugh. More than anything else, though, Stan’s personality made him the quintessential volunteer for the Rocky Mountain Oracle Users Group. His contacts and enthusiasm brought many other volunteers into the group.

Even after his death, Stan continues to be the rock that keeps our group solid. Education was always his top priority. His efforts spearheaded the scholarship fund, which is now named in his honor. He felt bringing young students into the IT world would keep things fresh and energetic.

Have you ever noticed the young students from Pine Creek High School who attend Training Days each year? These eager scholars come all the way from Colorado Springs to join us for our two-day event. Stan felt nurturing these students to be very important, so when school funding was cut back several years ago, he offered to pay for their way out of his own pocket. Now their registration fees are paid through the Stan Yellott Scholarship Fund. So next time you see the high school students at Training Days, be sure to welcome them.

Help us support Stan’s efforts to educate the next generation.

At this time, we would like to encourage anyone in our community that knows of a student pursuing an IT degree to apply for the Stan Yellott Scholarship. The next deadline will be September 15, 2011.

Please send the following information as application for the Stan Yellott Scholarship Fund:

1. Name
2. Address
3. City
4. State
5. Zip
6. Phone
7. Email
8. Written Recommendation from one or more faculty members should be sent to the above address by the application deadline.
9. Official sealed transcript sent to the above address
10. Application Statement: Statement of why you should receive this scholarship in 250 words or less.
Making Plans With Oracle 11g
And Not Leaving Them Behind

by Jed Walker

Introduction
Starting with Oracle 11g the database now has a component called the SQL Management Base (SMB). The SQL Management Base contains SQL Plan Baselines. SQL Plan Baselines are a known plan for a given SQL statement. Oracle stores these plans and then uses them to ensure optimal query performance. SQL Plan Baselines often significantly improve query performance without making any changes to your schema or database configuration. Once you’ve got these performance improving plans stored in the SMB you don’t want to leave them behind. The purpose of this paper is to point out some situations when you would want to migrate your SMB and how to do it.

Basics of SQL Plan Baselines
In case you aren’t familiar with SQL Plan Baselines and the SQL Management Base, I’ll cover some basics. As queries are requested from the database, Oracle will use the Cost Based Optimizer (CBO) to determine an execution plan and cost and then store it in the SMB. If the cost matches an accepted plan in the SMB then it will use that plan; otherwise, it will compare the cost with the costs of other plan baselines. If it finds a baseline with a lower cost it will use that baseline for the query. This helps ensure that your queries are performing optimally and that you don’t experience performance degradation. Over time Oracle can continue to improve upon the performance of the queries, and also make sure that if a new plan would degrade performance that an acceptable plan is used instead.

In order for Oracle to provide this, you must have a few parameters set correctly. Plans can be loaded into the SMB manually or automatically. You can load them manually a few different ways and you can find that information in the manual if you want to do it. If you want them to be loaded automatically you must set the parameter optimizer_capture_sql_plan_baselines = true. For Oracle to use the SQL Plan Baselines (as described above) you must set optimizer_use_sql_plan_baselines = true.

I can’t count how many times I’ve seen a poorly performing query in Oracle 11g that was fixed by a quick trip to OEM to implement a new SQL Plan. I’m sure there were many more that were automatically implemented during maintenance windows. I definitely recommend trying out this feature if you haven’t.

SMB Space Usage
In case you haven’t tried this feature yet, you should be aware that the SMB is stored in the SYSAUX tablespace, so be prepared to have it grow. I’m not aware of a neat way to determine how much space you’ll need to plan for because I believe it depends on many factors. I’ve seen some databases that barely use any extra space at all, and some that have had SYSAUX grow like mad. We had a system with a poor storage system that experienced rapid growth - I believe because it was simply trying hard to find a good plan. That database rapidly chewed through 15+ GB of SYSAUX space when on local storage. Once we built the database on our permanent storage solution the total SYSAUX used space was only about 3GB. So, regardless of the size of the database, be aware that you might need to allocate a little, or a lot, of extra space. You can manage some of this by using the DBMS_SPM.CONFIGURE command to change the space usage and retention policies for SQL Plans.

-- don’t allow the SMB to use more than 25% of SYSAUX
execute dbmsspm.configure('space_budget_percent',25);

-- remove unused SQL Plans after 12 weeks
execute dbmsspm.configure('plan_retention_weeks',12);

Going On A Trip?
When you’re taking your data on a trip you’ll want to pay attention and not leave your SMB behind. There are many ways of moving data around and you should be aware of your SMB when doing it. Depending on how you go about moving your data you could have some great SQL Plan Baselines, but leave them behind. If you move your schemas, or create schemas from scripts in a new database, these SQL plan baselines will have to be created and then evolved in a maintenance window (or by you) and thus won’t be available when you first start your database. If you’re going to production you’ll not want to leave those performance improvements behind.

If you’re using RMAN duplication then you should be set because you’re getting an exact copy of the physical structure including your SYSAUX tablespace and your SMB. I always like to use RMAN if I can because it is a sure-fire way to get exactly the same database. If you don’t have that luxury, then just migrate your SMB.

If you use scripts, Data Pump, SQL Loader, or other database movement tools to move data from one system to another, you need to be aware that your SQL Plan Baselines do not come along for the ride. If you export your schemas to move them to test and then production, or to move production data back to test or development, you’ll want to migrate your SMB. If you don’t, then all the work to create those has to be done again, possibly meaning initial performance may suffer.

The following demonstrates that DataPump won’t bring your SMB with the schema.

We have a schema, MY_USER, with 3 enabled and 37 accepted SQL Plan baselines: 
SQL> select creator, enabled, accepted, fixed, count(1) 
from dba_sql_plan_baselines 
where creator = 'MY_USER' 
group by creator, enabled, accepted, fixed 
/ 
CREATOR ENA ACC FIX COUNT(1) 
---------- --- --- --- ---------- 
MY_USER YES NO NO 3 
MY_USER YES YES NO 37 

We export the schema using Data Pump: 

->expdp dumpfile=it.dmp logfile=it_exp.dmp schemas=MY_USER 
Export: Release 11.2.0.2.0 - Production on Wed Mar 2 15:05:12 2011 ... 
Job "SYSTEM"."SYS_EXPORT_SCHEMA_01" successfully completed at 15:07:06

We import the schema into another database using Data Pump: 

->impdp dumpfile=it.dmp logfile=it_imp.log remap_tablespace=adn_data:users 
Import: Release 11.2.0.2.0 - Production on Wed Mar 2 15:27:51 2011 ... 
Job "SYSTEM"."SYS_IMPORT_FULL_01" successfully completed at 15:17:41

We then check for SQL Plan Baselines in the new database: 

SQL> select creator, enabled, accepted, fixed, count(1) 
from dba_sql_plan_baselines 
where creator = 'MY_USER' 
group by creator, enabled, accepted, fixed 
/ 
no rows selected

So, while we have our schema loaded, the SQL Plan Baselines are not there. That means risking poor performance until plans have been recreated and evolved all over again, or ...

Take The SMB With You

Follow these steps to take all, or some of, your SQL Plan Baselines to another database.

First, you need to create a staging table.

begin 
dbms_spm.create_stgtab_baseline(table_owner=>'MY_USER', 
table_name=>'SMB_TRIP'); 
end; 
/ 
PL/SQL procedure successfully completed.

Now you can start loading plans from the SMB for any user you plan on taking with you. When loading your plans you need to specify one of the parameters for enabled, accepted, and fixed depending on what baselines you want to take with you. Also, note that SQL Plan Baselines are stored by the user who ran the query, not the schema in which the objects belong (which could be multiple). If you have application users you will probably want to pack their plans also. All of these can be packed together in the same table, so run the pack_stgtab_baseline function for each user you want to bring baselines for. I also like to run a query after loading to make sure the plans I wanted are packed.

declare 
my_plans number; 
begin 
my_plans:=dbms_spm.pack_stgtab_baseline(table_owner=>'MY_USER', 
table_name=>'SMB_TRIP', 
creator=>'MY_USER', 
enabled=>'YES'); 
end; 
/ 
PL/SQL procedure successfully completed.

select creator, count(1) from my_user.smb_trip group by creator 
/ 
CREATOR COUNT(1) 
------------------------------ ---------- 
MY_USER 40

Now that you have these loaded, you should use Data Pump to export the table and load it into the database you are moving to. Once the table is imported you can unload all of the SQL Plan Baselines from the staging table at once. The unpack function will retrieve the baselines for all users that you packed in the table.

prompt Unpack Staging Table into SMB

declare 
my_plans number; 
begin 
my_plans:=dbms_spm.unpack_stgtab_baseline(table_owner=>'MY_USER', 
table_name=>'SMB_TRIP', 
creator=>'MY_USER', 
enabled=>'YES'); 
end; 
/ 
PL/SQL procedure successfully completed.

select creator, enabled, accepted, fixed, count(1) from dba_sql_plan_baselines group by creator, enabled, accepted, fixed order by 1 
/ 
CREATOR ENA ACC FIX COUNT(1) 
------------------------------ --- --- --- ---------- 
MY_USER YES NO NO 3 
MY_USER YES YES NO 37 ...

Now you have the plans that you and Oracle worked so hard to create. So, next time you pack for a trip, pack your SMB and take it with you!

Jed Walker is the Manager of Database Operations for the Comcast Media Center in Centennial Colorado. He has been working with Oracle Database since 1997 and is an Oracle Certified Professional for 9i, 10g, and 11g Database.
Oracle's Write Consistency

Side Effects for Applications

Ruslan Dautkhanov, Author
J. D. Laub, Technical Review

Write consistency is barely covered in official Oracle documentation, though it can have serious impacts to applications. Understanding what issues might be lurking, and some rather puzzling behavior to those not acquainted with write consistency behavior, might provide some insight when architecting a system.

Developers and DBAs have often heard how Oracle's Read Consistency works. In the default READ COMMITTED isolation level, transactions see only committed data. To guarantee this, Oracle uses Rollback Segments (UNDO Segments) to reconstruct data as it was when a statement started. In other words, each SQL statement in a session sees the database as a snapshot as of how things were when the statement started. If any commits occurred while a statement was running, then that commit will not be viewable by this statement. This ensures that transactions will read only consistent data sets.

But what about Write Consistency? Oracle guarantees ACID principles for DML: Atomicity, Consistency, Integrity and Durability. Let's suppose we have a long-running UPDATE on a huge table, and while this DML is happening, another transaction attempts an UPDATE on the same table, but for just one row. What will happen? In the obvious case, if the second session tries to update a row that has already been processed by the long-running session, then the 2nd session will wait for 1st session to finish (either commit or rollback), since that row will be locked. But the less obvious case is more interesting: if the 2nd session updates a row not yet locked by the long-running session, then the second UPDATE will succeed, and presumably commit in short order. Then, when the first UPDATE finds that the row was modified, it can't continue since it would contradict the Atomicity and Consistency principles mentioned above. So what happens? Oracle will restart this long-running UPDATE, with a new consistency time (SCN number). Restarting from scratch is quite a waste of resources, you might think... well, yes, to a degree. Though it might be the only algorithm which conforms to both ACID principles and the loose/optimistic locking Oracle uses.

This restarting can cause some side effects for applications, and is worth investigation. Tom Kyte has introduced the term "mini-rollback" for these restarts, but we'll use the term "DML restart" so we can emphasize that we get a mini-rollback *plus* a restart of the statement. And we'll use the term "DML restart" so we can emphasize this behavior is applicable to MERGE and DELETE as well as UPDATE (though note there's never a reason to restart an INSERT). Restarts can cause some unanticipated behavior (at least to the non-expert DBA): certainly performance can be severely affected, but multiple trigger firings for a given row might occur, which can cause some really surprising results if triggers or stored functions end up modifying package variables (since these aren't mini-rolled back), or if AUTONOMOUS triggers exist. On the most extreme end, even deadlocks might result.

The rest of the article will demonstrate a test case which produces an "issue", and dig into the side effects it causes. It's not an issue really, because this behavior is intended and repeatable from Oracle 8 (at least) to Oracle 11g. The test case table will have just 6 rows in it. Let's create it:

```
init> create table tab1 (
    num NUMBER,
    vc VARCHAR2(30)
) /
Table created.
init> insert into tab1 (num, vc)
2   select rownum, 'A'
3   from dual
4   connect by rownum<=6
5 /
6 rows created.
```

Plus a few additional objects needed to show side effects of the DML restart:

```
init> create trigger bu_tab1 before update on tab1 for each row
    begin
    dbms_output.put_line('BEFORE trigger: updating tab1 vc to ' || :new.vc);
    end;
Trigger created.
init> create trigger bu_tab1 before update on tab1 for each row
    begin
    dbms_output.put_line('BEFORE trigger: updating tab1 vc to ' || :new.vc);
    end;
Trigger created.
```
init> create or replace package tab1_var as
2 pkg_var NUMBER := 0;
3 function inc_var return number;
4 end tab1_var;
5 /

Package created.

init> create or replace package body tab1_var as
2 function inc_car return number as
3 begin pkg_var := pkg_var +1;
4  return pkg_var;
5 end;
6 end tab1_var;
7 /

Package body created.

init> -- 3. sequence
init> create sequence tab1_seq start with 1 nocache
2 /

Sequence created.

Now we are ready to start our test case. Let’s create our 1st
session, and call it “Before Long Update”:

Before LU> UPDATE tab1
2 SET vc='BB'
3 WHERE num=6
4 /
BEFORE trigger: updating tab1.vc to BB
1 row updated.
Elapsed: 00:00:00.28
Before LU>
Before LU> pause wait here... do not commit - start LU session
first... and only then hit Enter here

This 1st session updates just the last row in our tab1 table. It
didn’t commit yet, and is holding a lock on just that one row. Let’s
start an UPDATE in a second session, “Long Update”:

Long Update> -- main update... --please commit BO session _after_
this UPDATE will be waiting
Long Update> UPDATE tab1
2 SET vc='CC: seq='||to_char(tab1_seq.nextval)||'; pkg_var='||to_char(tab1_var.inc_var)
3 WHERE vc='A'
4 /
BEFORE trigger: updating tab1.vc to CC: seq=1; pkg.var=1
BEFORE trigger: updating tab1.vc to CC: seq=2; pkg.var=2
BEFORE trigger: updating tab1.vc to CC: seq=3; pkg.var=3
BEFORE trigger: updating tab1.vc to CC: seq=4; pkg.var=4
BEFORE trigger: updating tab1.vc to CC: seq=5; pkg.var=5
BEFORE trigger: updating tab1.vc to CC: seq=6; pkg.var=6
BEFORE trigger: updating tab1.vc to CC: seq=7; pkg.var=7
BEFORE trigger: updating tab1.vc to CC: seq=8; pkg.var=8
BEFORE trigger: updating tab1.vc to CC: seq=9; pkg.var=9
BEFORE trigger: updating tab1.vc to CC: seq=10; pkg.var=10
BEFORE trigger: updating tab1.vc to CC: seq=11; pkg.var=11
5 rows updated.

The results in the second session will come up immediately,
since the commit will release the lock from the last row:

BEFORE trigger: updating tab1.vc to CC: seq=1; pkg.var=1
BEFORE trigger: updating tab1.vc to CC: seq=2; pkg.var=2
BEFORE trigger: updating tab1.vc to CC: seq=3; pkg.var=3
BEFORE trigger: updating tab1.vc to CC: seq=4; pkg.var=4
BEFORE trigger: updating tab1.vc to CC: seq=5; pkg.var=5
BEFORE trigger: updating tab1.vc to CC: seq=6; pkg.var=6
BEFORE trigger: updating tab1.vc to CC: seq=7; pkg.var=7
BEFORE trigger: updating tab1.vc to CC: seq=8; pkg.var=8
BEFORE trigger: updating tab1.vc to CC: seq=9; pkg.var=9
BEFORE trigger: updating tab1.vc to CC: seq=10; pkg.var=10
BEFORE trigger: updating tab1.vc to CC: seq=11; pkg.var=11
5 rows updated.

We can see several “oddities” of how Oracle’s Write Consistency
is implemented here. “5 rows updated”, but our BEFORE UPDATE
trigger fired 11 times! The package variable wasn’t rolled back as
part of our “mini-rollback”, so its value is messed up now. And some
sequence values were “lost” (which is the least damaging effect
here). Some more evidence of what happened:

Long Update> select tab1_seq.currval from dual
2 /
CURRVAL
-----------------
16
Elapsed: 00:00:00.35
Long Update> begin dbms_output.put_line('pkg_var='||to_char(tab1_var.pkg_var));
2 end;
3 pkg_var=11
PL/SQL procedure successfully completed.
Elapsed: 00:00:00.29
Long Update> select * from tab1
2 /
NUM  VC
-------------  --------------------------------------------------------
1      CC:  seq=12; pkg.var=7
2      CC:  seq=12; pkg.var=8
3      CC:  seq=12; pkg.var=9
4      CC:  seq=12; pkg.var=10
5      CC:  seq=12; pkg.var=11
6      BB
6 rows selected.

We selected the current value of the sequence which is 16 now,
but it should be 6 without a DML restart. The package counter is
11, but should be 6 as well.

Finally, we can see the “rollback changes” session statistics
that show a mini-rollback really happened:

Before LU> commit;
Commit complete.
Elapsed: 00:00:00.28

Before LU> UPDATE tab1
2 SET vc='BB'
3 WHERE num=6
4 /
BEFORE trigger: updating tab1.vc to BB
1 row updated.
Elapsed: 00:00:00.28
Before LU>
Before LU> pause wait here... do not commit - start LU session
first... and only then hit Enter here

This 1st session updates just the last row in our tab1 table. It
didn’t commit yet, and is holding a lock on just that one row. Let’s
start an UPDATE in a second session, “Long Update”:

Long Update> -- main update... --please commit BO session _after_
this UPDATE will be waiting
Long Update> UPDATE tab1
2 SET vc='CC: seq='||to_char(tab1_seq.nextval)||'; pkg_var='||to_char(1)
3 WHERE vc='A'
4 /
BEFORE trigger: updating tab1.vc to CC: seq=1; pkg.var=1
BEFORE trigger: updating tab1.vc to CC: seq=2; pkg.var=2
BEFORE trigger: updating tab1.vc to CC: seq=3; pkg.var=3
BEFORE trigger: updating tab1.vc to CC: seq=4; pkg.var=4
BEFORE trigger: updating tab1.vc to CC: seq=5; pkg.var=5
BEFORE trigger: updating tab1.vc to CC: seq=6; pkg.var=6
BEFORE trigger: updating tab1.vc to CC: seq=7; pkg.var=7
BEFORE trigger: updating tab1.vc to CC: seq=8; pkg.var=8
BEFORE trigger: updating tab1.vc to CC: seq=9; pkg.var=9
BEFORE trigger: updating tab1.vc to CC: seq=10; pkg.var=10
BEFORE trigger: updating tab1.vc to CC: seq=11; pkg.var=11
5 rows updated.

We can see several “oddities” of how Oracle’s Write Consistency
is implemented here. “5 rows updated”, but our BEFORE UPDATE
trigger fired 11 times! The package variable wasn’t rolled back as
part of our “mini-rollback”, so its value is messed up now. And some
sequence values were “lost” (which is the least damaging effect
here). Some more evidence of what happened:

Long Update> select tab1_seq.currval from dual
2 /
CURRVAL
-----------------
16
Elapsed: 00:00:00.35
Long Update> begin dbms_output.put_line('pkg_var='||to_char(tab1_var.pkg_var));
2 end;
3 pkg_var=11
PL/SQL procedure successfully completed.
Elapsed: 00:00:00.29
Long Update> select * from tab1
2 /
NUM  VC
-------------  --------------------------------------------------------
1      CC:  seq=12; pkg.var=7
2      CC:  seq=12; pkg.var=8
3      CC:  seq=12; pkg.var=9
4      CC:  seq=12; pkg.var=10
5      CC:  seq=12; pkg.var=11
6      BB
6 rows selected.

We selected the current value of the sequence which is 16 now,
but it should be 6 without a DML restart. The package counter is
11, but should be 6 as well.

Finally, we can see the “rollback changes” session statistics
that show a mini-rollback really happened:
Long Update>

```sql
select sn.name, ms.value
from v$mystat ms join v$statname sn on (ms.statistic#=sn.statistic#)
where sn.name='rollback changes - undo records applied'
/
```

<table>
<thead>
<tr>
<th>NAME</th>
<th>VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>rollback changes - undo records applied</td>
<td>11</td>
</tr>
</tbody>
</table>

Eleven rows were rolled back. There are only 6 rows in the table, and only 5 rows were updated in the “Long Update” session before DML restart happened, so why not 5 or 6 record rollbacks? Let’s leave this question for the curious reader who might want to dig deeper into this subject...

Now that we’ve seen a DML restart can happen, let’s touch briefly on the impacts it can cause for applications:

1. Performance. A restart can happen multiple times. When you expect that a simple UPDATE or DELETE will happen, your statement might actually be replayed multiple times, including rollbacks to a “save point” (beginning of the statement). This can significantly increase run time, but the restarting is not unbounded: Oracle will attempt no more than 5000 DML restarts for a given statement. After that your application will receive ORA-600 [13013] [5001] “Cannot get stable set”. Do you expect your single UPDATE will be replayed a few thousand times instead of just a single execution? Now you know that it’s possible.

2. Mini-rollbacks can’t really rollback everything; package variables, which might be modified via triggers, or even via a function when called directly from DML, is an example. Others include calls to packages like UTL_FILE or UTL_SMTP.

3. Other DML statements called from autonomous functions or triggers will not be mini-rolled back.

4. Increased deadlock probability. When Oracle issues a mini-rollback in a “Long Running” session, it releases locks from rows it has already updated. But other sessions will *not* be notified about this event, and will continue waiting for the “Long Running” transaction to complete. This behavior is unusual, but it decreases the chances of future restarts. The cost is increased chances for deadlock if your application relies on the order of DML from different sessions to be made.

5. Lost sequence values. Sequences never got rolled back, so with every DML restart we also will lose values if sequences were used. You will see this as a gap in the sequence-driven columns.

The list might not be complete. Oracle lacks documentation of this “feature”, so we can only guess about other side effects (and try more tests to confirm them). It’s likely the most serious and commonly overseen problem is when you have some sort of counter in the package variable, and use it to control logic in your application, such as storing of how many times a table was updated.

You can see how restart unfolds in trace files. The two most interesting trace events to watch are 10219 “monitor multi-pass row locking” and 10218 “dump uba of applied undo”. To enable both of them at once in the “Long Running” session, issue:

```
alter session set events '10218 trace name context forever, level 10:
10219 trace name context forever, level 10';
```

References:
1. Tom’s first reference to this problem: the link is too long – just google “asktom mini-rollback” and look for the link at astom.oracle.com with the title asktom “write “consistency” (which is probably the first).
2. Sergey Markelenkov’s article “Algorithm of mini-rollbacks in Oracle or once again about Write Consistency” (not yet translated into English).
3. Archive with all sources used in this article: http://files.geoidweb.com/rmoug/article1/scripts.tgz

Rusian Dautkhanov is an Oracle contractor and Development DBA at McKesson Health Solutions. He has many years of experience working as a developer and DBA in various applications, including telecom billing systems and financial applications. He has been an Oracle DBA Certified Professional since 2004.
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The Essential Cloud Integration Checklist

by Jordan Braunstein
Visual Integrator, Inc.

With the current paradigm shift towards cloud computing, it's evident many companies are optimistically investing in cloud solutions. While some corporations are starting their private cloud infrastructure, other early adopters are driving out applications by developing directly in public cloud platforms, and even more are procuring software capabilities from the litany of Software as a Service (SaaS) vendors. No matter what your level of "Cloud Maturity" is or which deployment models you choose (SaaS, PaaS, or IaaS), there are certain essential architectural considerations when designing cloud environments. This is especially true for companies sharing information from their corporate applications into the cloud and vice versa - integrating existing systems with the cloud can be a daunting task. Sharing information with the cloud seems to be a concern for many CIO's, since they haven't established a level of trust with their cloud yet. This article explores the more critical characteristics of integrating to and from the cloud, and how to ensure your solution is stable, scalable, and interoperable. Consider this your Essential Cloud Integration Checklist.

(1) Security

Security is by far the #1 concern of IT departments when considering venturing into the cloud. Most of IT's concern centers around the fear of exposing private or sensitive information to non-validated users. Nobody wants to be the next company featured on CNN for losing their customer's data to an outside intruder. However, many of these same doubters would be surprised to learn that most Cloud providers have hosting and data centers that are far more secure than their own company's on-premise center. Overcoming the risk of losing sensitive data is best accomplished through education, cloud provider research, and contractual stipulations. In other words, make sure your cloud provider follows certain standards (some of which are outlined below), ensure you have the proper service level agreements to protect your company in case the cloud has a failure, and educate any doubters to cloud's security capabilities. Standards such as Secure Socket Layers (SSL), Security Assertion Markup Language (SAML), and encryption, authentication, and single-sign on (SSO) should be considered for any Cloud security architecture.

Cloud is based on a best-of-breed approach, and it's common for companies to be tied into multiple cloud vendors for their cloud solutions. If you buy into a multiple cloud provider approach, how do you go about managing users logging into each provider's proprietary, distributed, and multi-technology environments? This can become even more difficult when the cloud is off premise or a public Cloud. Policy assertion standards such as Security Assertion Markup Language (SAML) will allow your systems to integrate via a single sign-on token and share security policies across technologies. This assumes your cloud provider supports SAML, which is an important consideration. Without direct SAML support, secondary options can be custom-based session tokens through cross-reference tables.

It's also important to ensure your cloud provider supports SSL and other encryption techniques in case any sensitive data need to be exchanged with the cloud. This is especially true with public clouds, where the data can be crossing a public wire as it flows to/from the cloud, and the data need to be masked from any potential interceptor.

Access Control of software source control objects in the cloud is also important during design time or runtime -- objects, screens, and content artifacts should be protected to disallow any threats of viewing the source code, business rules, opportunity to change the configuration of an object, or running or executing the object by a disallowed user.

These security approaches become increasingly more important, since many cloud providers practice multi-tenancy, which is the ability for providers to host multiple customers on a single resource. Examples could include your company's assets being hosted on a shared server, database, and disk drive as your most feared competitor. The cloud provider is responsible for separation of concerns and ensuring nothing is compromised.

(2) Interoperability

Sending information to/from the cloud is an important consideration because the cloud can be both an authoritative source of information and a consumer of existing on-premise enterprise information. This information can be process, data, or business-centric, but is still required to integrate with the Cloud to complete a business process. Normally, this integration needs to be electronic, automated, and seamless, so, it's important for the cloud to have Application Programming Interfaces (API's) that are remotely accessible to other systems off the cloud (or on other clouds). These API's provide the channel or method for sending information into the cloud, pulling information out of the cloud, pushing information out of the cloud, or modifying information in the cloud. The most common technique for integration is webServices that comply with the WS-standards, and specific industry standards. This will allow the organization to leverage services and comply with architecture styles such as Service Oriented Architecture (SOA) to share information across technologies and platforms.
Working with different cloud vendors, especially SaaS vendors, means you will have to familiarize with each vendor’s proprietary User Interfaces (UI). This can be a daunting task and cause a lot of “swivel chair integration” for the end users who have to work in multiple UI’s across cloud applications. Instead of swiveling and hand-jamming information across multiple systems, the preferred approach is to create a universal look and feel application that provides the “single version of the truth.” This is best accomplished through approaches such as Composite Applications and Mash-ups that are design patterns that integrate disparate information sources into a single application screen or portal. This architecture has many benefits, such as: simplifying working environments, increasing end user efficiency, and protecting the business process from less human errors. However, this architecture design pattern is not always simple to implement, as it requires the cloud vendor to expose information via a real-time remote API, preferably webServices. Other considerations include support for standards such as Web Services for Remote Portlets (WSRP), and Java Spec 168 (JSR 168) to embed remote content into the consuming portal screen.

With so much information sprinkled throughout the enterprise, it’s becoming increasingly more important for companies to provide features to catalog, index, and expose content for search in enterprise systems. The cloud is an enterprise system and the information contained within must be searchable. How is this accomplished if the cloud is off-premise? The simplest approach is for the cloud vendor to index their own content and expose the searchable content via a remote webService API. This will allow companies to integrate the cloud content with any pre-established searching software they have already standardized on and prevent end users from having to use multiple search boxes to find their information. Companies will then reap the benefit of “single box search,” as having to swivel between multiple-search User Interface’s can be a frustrating experience to locating content and information. This concept is known as “Federated Search” since the content being searched can be hosted anywhere across the enterprise or the cloud, but the user doesn’t need to worry about that, as the search design complexities are abstracted from them—they simply have a simple search UI that allows them to find associated content.

Working with multiple cloud vendors presents other unique challenges that include the functionality of the software, workflow capabilities, and performance management. For example, how do I maintain a low click stream across all cloud providers when they have unique taxonomies and page wire frames? They have different click stream architectures. How do I have a workflow process that spans across multiple cloud providers—especially true if the cloud providers each have their own proprietary workflow tools? There needs to be a “master workflow” state engine that can be a master process flow across systems and leveraging their individual workflow capabilities. How do I manage performance or identify bottlenecks across multiple providers? Ping-ponging packets between on-premise systems, public cloud, and private clouds can cause inefficient data flows that cause long wait times. Ultimately, the end-users will suffer from cloud systems that don’t account for moving data between corporate firewalls and cloud providers.

Standards are important for enforcing consistency and simpler governance models. This is especially important when different technologies, approaches, and vendors are involved in a cloud system. It’s important to rely on standards such as WSRP, SAML, W-3 webServices and more to simplify the integration and management amongst your portfolio of cloud providers.

While integrating with the cloud presents itself with unique set challenges that include: off-premise hosting, federated and distributed location of cloud providers, reliance on providers for standard and technology support, cross-firewall integration, and potential performance issues, there have evolved some early leading practices.

- Use a service oriented approach for integrating to and from the cloud
- Attach contracts to each service for management, monitoring, and governance
- Leverage standards wherever possible
- Limit the number of network hops when possible
- Integrate through webServices or remote API’s
- Rely on native cloud provider workflow tools, and implement cross-technology workflow when processes cross technologies
- Strive for consistent look and feel, click stream, and overall usability through webServices and standards

Jordan Braunstein is the Middleware Practice Director for Visual Integrator, Inc which specializes in Oracle Fusion Middleware, Cloud Computing, and SOA/BPM. Jordan’s focus is helping customers with their Oracle Fusion Architecture, Roadmap, and frameworks to maximize re-usability, minimize risk, and realize agility. Oracle Technology focus areas include: Oracle SOA, BPM, AIA, ADF, APEX, UCM, WebCenter, and OBIEE. Jordan was promoted into the Oracle Ace program, due to his contributions and expertise on Oracle SOA, Fusion, and Middleware. Previously, Jordan was a Sr. Manager for BearingPoint’s Business Systems Integration practice, where he focused on Enterprise Service Bus, Enterprise Architecture, and webService architecture for government and supply chain clients. Prior to that, Jordan was an Architect at webMethods, Inc where he specialized in Integration Backbones and B2Bi Hub architecture.

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Abstract

Investment is about applying resources to return value higher than the initial resource outlay. Investment in corporate information systems has been a hot topic for the past decade; however, measurement techniques have confused, eluded, and frustrated many IT organizations. One reason is that IT is not a separate business; it is one integral part of a larger business. IT project management needs to take a page from the practice of product management to open the often myopic approach applied. Also, technology delivery teams do not deliver value at just one point in a project. Value is created along the way and this is often not realized and often ignored. We will explore a new way of viewing IT investments, creating business value, and bringing innovation into the fold.

Under New Management

If you look at any of the myriad project management flow charts, or functional descriptions, you will see a set of functions and practices focused on budget and risk management. The typical project manager is asked to keep the assigned project on time and on budget while minimizing risk items to both of these. This is important from an accounting perspective; however, I would like to inject the notions of value and innovation.

In contrast, the concepts of value and innovation are strewn across product and product market management models and practices. Models such as Adaptive on the product management side and Pragmatic on the Marketing side use words such as “innovation,” “value,” “competitiveness.” These frameworks instill a sense of business value and long term outlook.

Most IT project managers are given a set budget and a concrete timeline to deliver a given application. These rigid channels of performance are meant to control scope and risk. Statistics reported by the Standish Group International have placed the project failure rate due to disappointing results or abandonment to be as high as 75 percent (http://www.it-cortex.com/Stat_Failure_Rate.htm). 16.2% of projects are delivered on time and on budget according to the Standish study. These are frightening numbers. So, tight control is needed so that we do not waste time and money, right?

I would posit that many projects are failures in the eyes of the investors regardless of whether the project was on time or on budget. I would also posit that post-release, the delivered application/solution value will erode quickly and the cost to maintain will increase. The project manager is trained to control the scope of their delivery and not get concerned about future implications. In fact, most project managers are then moved to another project while another operations team takes over KTLO (keep the lights on) maintenance.

This practice of scope management taught to traditional IT project managers constrains the initial release functionality and potential customer base. Post release, the delivered application goes into maintenance while enhancement and expansion slow or cease. Who evangelizes the delivered product and shepherds the future generations?

The practices, methodologies and mindset of the product manager must be put into place to create a sense of investment and not a one-time project. The product manager is a long term owner. From version 1.0 to version X, the product manager nurtures the solution and with the product marketing manager, exploits the investment into new customers and markets.

The project management practice is not set up for exploiting their delivery into other areas of the business. They have no incentive or direction to leverage the effort to other uses or customers. The project manager is tasked for the delivery of their assigned budget and time allotment – period.

As an example, let’s say that a company is developing a new customer master solution that is geared towards a new on-line presence. The project manager will be provided the scope of the effort and the resource allotment estimated to cover the delivery. Requests from the customer support group to leverage the wealth created by having a single integrated customer view will be shunned if it is not in the original scope, just as overtures from the financial analysis team to exploit the data for customer value analysis will
be shunned. The project manager is trained to keep the requirements in concrete and ignore pleas to expand the scope. However, the product manager and the product marketing manager will look at these as opportunities to expand their customer base and leverage the development dollar. Their practices will quickly assess the business value and investment for a longer term success. The typical project management practice will start a lengthy change request process that is designed to hinder rather than embrace change.

IT delivery teams need to take a lesson from product management and product marketing. Thinking value-based delivery will increase the initial delivery value and set a process for longer term investment management.

**Managing the Business Investment**

Information Technology (IT) efforts should not be singular. IT project managers need to think beyond the single project and look at the longer term investment. IT investments should only be viewed in the context of business value. IT is just one part of the broader business that is used to increase company revenue, market share and profit (via reduced expenses).

Figure 1 illustrates the generic life cycle of a business investment. Considering IT as a business investment, Value (v) is plotted on the y axis and time (t) on the x axis. The area of the chart labeled A represents the time in which an investment has a lot of costs but not much value (more about that later), so we are below the break-even point for most of the time. Many projects do not get above the break-even point, which is a contentious problem for many businesses. We want to move as quickly as possible to positive value contribution.

![Figure 1. Standard IT Investment Curve](image)

Section B of Figure 2 represents the time in which the investment has the most value, and this is where we would like our investment to live for as long as possible. However, value degrades over time due to degrading performance of solution, cost to maintain, or changes in business focus.

**Optimal Business Non-reality**

Figure 3 shows two alternative curves. The “Optimal Incremental Capability” curve is an unrealistic expectation that an investment moves from point 0 to having value immediately. It also expects that each incremental change correspondingly provides immediate value. This is not real world, but it is the way in which many IT projects are viewed. The second graph is a “Value Cow Curve” that illustrates the thought that once a project is delivered and in “maintenance phase” it offers a set value indefinitely. Actually, this curve is somewhat possible and has been illustrated with many “legacy” COBOL platforms. Many new comers to IT scoff at green screens and batch processing from 70’s and even 60’s era applications, but they still calculate insurance premiums, send out bills, or manage inventory quite well.

![Figure 2. Standard IT Investment Curve](image)

![Figure 3. Optimal Investment Curves](image)

So, the question remains about how to minimize time to value and to maintain incremental value over time. First, let’s define what is meant by value. Value is the investment’s contribution to increasing revenue or decreasing costs (realized by profit margin). In the public sector it is measurement of service to citizens. Value is measured by a combination of discrete and qualitative factors. Financial factors such as return on investment (ROI), internal rate of return (IRR), and net present value (NPV) are discrete values. These financial numbers should be balanced with qualitative measurements such as strategic fit and risk.

**Minimizing Time to Value**

Often companies try to realize value in their investments by compressing time accomplished by setting dates or stuffing extra staff onto the schedule. We all know the Fred Brooks seminal work “The Mythical Man-Month: Essays on Software Engineering” and have lived many projects where the approach of setting unrealistic dates or over-staffing to compensate are not the answer. However, we can realize value sooner rather than later. IT projects do not just pop value at a final release date. In traditional waterfall approaches it is difficult to realize any value until release (and subsequent
field shake outs); however, there is value created as a project progresses.

Here are several things to consider to minimize time to value.

1. Research: We often forget that a lot of research goes into IT projects. This material is gathered during the initial phases to describe the business environment, alternative approaches, and business strategy. Too often this work is not documented well or shelved immediately and not communicated sufficiently. This work has value to others in the business and should be leveraged for technical and non-technical future efforts.

2. Industry Patterns or Leverage Internal Assets: The purpose of industry patterns is to provide a foundation of research (and development) that can be exploited to provide a richer solution or to avoid the expense of research. The use of industry patterns is not a panacea and should be considered carefully to make sure that the investment is sound. Leveraging internal assets is always a sound investment. Often the technical team wants to use the latest and greatest technology or industry components, but the “value cow curve” of figure 2 shows that steady positive value can beat negative value.

3. Incremental Release of Functionality: Agile, or iterative approaches afford the opportunity to release incremental components. For example, a consolidated data store can be released prior to a business intelligence front end to provide various analysts with an information resource. Thus, the investment in the database design can be realized prior to the completion of a larger data warehouse effort.

Figure 4 uses the same bell curve from figure 2 to illustrate how the incremental value realization can affect the investment picture. Note that it is very possible that not all incremental components will actually realize value. Thus, the total investment value may be negative, but some components can be leveraged and distinguished for their contribution.

The amplitude of the curve in Figure 3 can be increased, as well. The amplitude describes the returned value. The value can be increased by such methods as:

- Covering more customers or business units than originally scoped,
- Leveraging assets from this investment into other investments,
- Or reducing the costs of the investment.

Another way to increase value is through innovation. Innovation is often disregarded in IT efforts. This is often because it is not valued as a part of a singular project effort. Innovation can also be disregarded because it is a risk. Most IT teams and corporate leaders do not like risk.

Innovation can come in many different forms. It may be applying the same technology to different problems (re-use). It may come in the use of non-standard techniques or tools. This latter issue is where IT often has trouble with innovation; non-standard approaches are risky.

Figure 5 illustrates how innovation can affect value. A whole new community may leverage the initial investment. This increases the value because the revenue impact goes up with the same or a small increment in cost. It may also happen that someone applies a new technique or technology to the initial problem and re-uses the research, the findings, and the original team. Competitive advantage may be created, and costs are reduced while leaving the revenues unchanged. Either way, value is increased and a good investment is made.

Investment in business information technology (IT) should not be valued in a vacuum. The investment must be for business purpose that is used to increase company revenue, market share and profit (via reduced expenses); therefore, IT projects need to be evaluated as any corporate use of funds. Value is an important concept that often is on the lips but does not often get measured or realized.

Bill Wimsatt is a 20 year IT Industry veteran with expertise in Enterprise Architecture, Strategic Technical Planning, and Data Architecture. He is a recognized industry leader and frequent speaker at Enterprise Architecture, IBM, and Oracle conferences. Mr. Wimsatt’s broad industry experience includes insurance, telecommunications, cable, embedded systems, US Government, and consulting.
Some of my best material comes to me in interesting ways. I usually use all lower case syntax with Oracle. I recently taught a class using an 11g database and some folks had issues logging in.

**Oracle11g IS Case Sensitive on Passwords**

Oracle11g is now case sensitive with passwords. When new accounts are created, the password is indeed case sensitive.

You can see the case sensitive setting in SQL+ by using

```sql
SHOW PARAMETER SEC_CASE_SENSITIVE_LOGON;
```

People with DBA privileges can see the password status using

```sql
SELECT USERNAME, PASSWORD_VERSIONS from DBA_USERS;
```

This list will show both migrated users and new users password status.

**Migrating from older releases…**

When migrating from older releases, the passwords are preserved and they are NOT case sensitive until they are changed, and they are case sensitive only if the above SEC_CASE_SENSITIVE_LOGON is still set to TRUE.

**Changing the Settings**

Because I do training and I’m not interested in case-sensitive passwords, I ran the following two commands to disable this feature on my Oracle11R1 database.

Command prompt: `orapwd file=orapwDB11Gb entries=100 ignorecase=y password='sys/system pwd';`

Connect as SYSDBA and enter:

```sql
ALTER SYSTEM SET SEC_CASE_SENSITIVE_LOGON = FALSE;
```

**Summary**

Be prepared for this subtle change in Oracle11 logon behavior!

I also have an article on how to allow for remote login of SYSDBA…another subtle change in Oracle11. Ask me for it.
IT Isn’t Dead
100% Guaranteed Approach to Keep Your CEO Happy

By Jordan Braunstein
Visual Integrator, Inc.

If there is one constant with IT, it is the guarantee of change. Whether it’s new regulations, corporate leadership, changing business models, regulation and legislation, up coming technologies, customer demands, changing marketplaces and global conditions, or company re-organization, there are many pressures on today’s modern IT department to always adapt to these latest changes to keep the business functioning and properly positioned. With the added pressure of the recent economic downturns, IT is being asked to deliver the same or more solutions, with less capital funding. The risks to companies following such an approach are glaringly obvious—do they sacrifice quality for agility? Do they comply with regulations sooner rather than later? Do they change their systems based on market conditions? All these aspects combined can easily cause heartburn to today’s CEO’s. So, how do you keep your CEO (and CIO) happy and more importantly keep them employed? By following an application modernization strategy and approach, your IT department will remain ahead of the always changing curve, with a low risk profile, and be fully prepared for future-proofing your IT solutions.

Adoption of the internet has caused frenzied investment in new business ideas creating rapid advancement in technology, services, and standards. This is driving wide spread adoption of web-based technologies, resulting in existing technology becoming outdated and software lifecycles becoming shorter. This leads to constant fluctuation in IT trends, many of which must be adopted to remain competitive with your organization’s business goals and to respond to the changes aforementioned. What are the IT trends of today that will dictate a company’s success? Do they require every IT department’s attention? Do they add value to the organization? Listed below are IT trends that every company should be considering in order to keep their company strategically aligned for high value gains:

- Cloud Computing: The ability to take commoditized assets off premise and follow a consumption cost model.
- System Consolidation: Virtualizing and combining hardware, sunsetting redundant systems, standardizing on vendors.
- Enterprise Re-usability: Re-use and integrate existing assets, create single information sources, and sunset redundant systems.
- Mobile Solutions: Access business relevant information through mobile devices and perform business process remotely.
- Portfolio Management: Manage and maintain corporate assets just like your stock portfolio; buy/sell in the market-place through effective metrics.
- Technology Lifecycle Management: Manage vendor relationships, standards. Sunset technologies before workforce or vendor support become scarce or costly.
- Off-shore management: Manage cost-effective off-shore teams for effective and quality-driven results.
- Agile Methodologies: Follow an incremental approach that has rapid, value-driven milestones.
- Technology Selection: Embrace open standards and technologies that are mature and sustainable.

There are many drivers to adopting such leading edge IT initiatives, some of which include the following: vendor drops support of products or technologies, modern skilled workforce and lack of legacy skilled professionals, new software programming languages, competitive pressures, and more. These all lead to following constant modernization and rationalization processes that continuously re-evaluates the technologies, products, and corporate assets. Following a modernization strategy, that includes identifying application profiles for each corporate IT asset, will allow organizations to measure, monitor, and target their future IT portfolio. Having a continuous rationalization process through source selection techniques will benefit companies looking for not only continuous improvement, but continuous optimization. This includes defining a prioritization framework so that each initiative can be ranked and selected based on the value it brings to the organization. Once such levels of maturity are achieved, organizations reap the ultimate benefit—re-allocating funding from maintenance-type initiatives to innovation-type initiatives. Re-focus IT from managing the day-to-day operations, to helping the business solve real business problems. This is often accomplished through a centralized, integrated, flexible framework that has been through the rigor of business case justification, performance and risk management, and strategy drivers.

Studies have shown that world-class companies have reaped the benefit of such initiatives: firms with world-class performance management outperform their peers by 240% (The Hacket Group), 404% ROI for customers leveraging SaaS delivery models (IDC), and 150% ROI for Grid customers (Mainstay Partners). These are figures to keep your CEO happy and are accomplishable by following a structured approach that stresses standardization, rapid value, vendor management, and commoditization of tactical and non-strategic functions.

For more information or any questions, please contact Jordan Braunstein at: Jordan.Braunstein@visualintegrator.com
The PL/SQL Challenge

“Destined to Become World Famous”

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◆ "Cool quiz to tickle the brain!" - From A.M.
◆ "The PL/SQL quiz is one of the highlights of my workday. Thank you for creating a professional culture for us PL/SQL developers!" - From Lauren
◆ "The PL/SQL Challenge has quickly become my caffeine companion in the mornings to help get the grey matter moving and the synapses firing. Even if I don’t feel very intelligent after seeing some of the correct answers..." - From Matt G

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- Did we mention the fabulous prizes?

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The Challenge is simple: you play the quiz - daily. We keep score. You get ranked. Every three months, the top-ranking players compete in a quarterly championship to award first, second and third prizes. But that’s not all! Every week and month, players win prizes based on the correctness of their answers and from participation raffles. The more you play, the greater your chance of winning.

So what are you waiting for?
It’s time to take the PL/SQL Challenge!
To register and play, or for more information, visit www.plsqlchallenge.com.

www.plsqlchallenge.com
With this new board, we have a group of accomplished people who are excited to explore new avenues in reaching colleagues around Colorado and beyond. Through his efforts over the past year, Brad has established the DBLabs meetings at Regis University, along with creating new special interest groups (SIGs) focusing on Oracle E-Business Suites and Fusion middleware, with more SIGs in the works. Carolyn has made our quarterly educational workshops (QEWs) more effective, upgrading them to a half-day format and finding knowledgeable and engaging speakers. Kellyn will expand RMOUG’s presence onto social network sites such as Facebook and Twitter to reach new members and vendors and greatly enhance RMOUG’s reputation and mind-share in the world, beyond the Oracle database to MySQL. John, who has served the Oracle Developer Tools Users Group (ODTUG), will give us the benefit of his expertise to continue the tradition of “Training Days 2012” as the foremost conference by a grass-roots users group worldwide. Tom is extending the educational mission of RMOUG to students through the Stan Yellott Scholarship Fund. Pat continues to lead our award-winning newsletter to even greater prominence on desks and in bookshelves in IS shops throughout Colorado and North America. And as president and treasurer, I intend to stay out of everyone’s way and clear away any obstacles, freeing this talented group of people to lead and create.

Please feel free to contact any member of the board to ask questions, seek information, or participate.

It is going to be a fun and exciting year! See you at one of our events, in person or online...

Tim Gorman
2010/2011 President

Tim at age 17.....with hair

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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.
When you are asked to write a short bio about your life... and more specifically how you ended up in the world of Oracle, what do you include? Perhaps you will be the next RMOUG member to ponder this! Well, like a flow-chart, I'll start at the beginning.

Because I think that relationships with people and development of character leads to decisions in your life, I’ll include facets of those things that led to my current position as a Senior Oracle Applications System Analyst. When this short bio is finished, it may land in the ‘cedar chest’ with the year books, graduation hats, old boyfriend football jerseys, and baby clothes - possibly to be read someday by the kids.

Being a Colorado native, it is an honor for me to write for the RMOUG magazine. I was born in Fort Collins, lived several years in the California Bay Area, then back to Western Colorado to complete my High School education. Several generations of family were, and still are on the Western Slope. A positive in my life: to be raised in a small town with lots of family nearby.

As High School comes to a close, the looming question is: What direction will you go? It was college for me, and contrary to so many kids today, I didn’t really give a thought to tuition or cost of living. Youth and immaturity, I guess. But in the end it was taken care of by a full-ride basketball scholarship to Wyoming.

During the 1st week of my senior year in high school as I walked into my calculus class, I asked the question: What am I going to major in? My answer: computers. Although that seems so generic, it was all I really knew at the time. There was one computer at my school; it sat in a closet in my math class. I occasionally was allowed to open the door and ‘look at it’. Possibly touch the keyboard and gaze at the green letters on a black screen.

My first couple years of college were full of studies along with full-time sports. I majored in Computer Science and worked as a Computer Operator delivering reams of paper off the backroom printer to students as they debugged their classroom programming assignments. Languages of the day included Cobol, Fortran, Pascal, and RPGII. The last surprisingly came in handy for my first data entry job at a local hospital, as they had systems written in RPGII on an IBM mainframe.

After being selected as Outstanding Student in my College graduating class and giving the graduation address, I landed at the University of Hawaii, Hilo. I was unaware that Hilo is the ‘wettest’ place in our country, having an average rainfall of 128” per year. Oh well... riding my bicycle daily by the Suisan Fish Market at 7 a.m. to Calculus class built character. As you can imagine, it was a treat to travel all the islands during my stay. However, Christmas with Palm trees didn’t fit with my Colorado upbringing, so I transferred yet again to the University of Colorado to finish my Bachelors degree in M.I.S. (Management Information Systems) with a minor in Business Administration. Since graduating, the degree term has changed from M.I.S. to I.S. to I.T – Information Technology.

Graduation from CU brought me to my first job in Denver, at a utility company. I started as a Cobol programmer working on a VAX/VMS system. I wrote custom
software for order entry and shipping. After four years of a very good start in the technical industry, personal life events prompted me to travel. So I bought a Euro-Rail pass and toured with a backpack for six weeks, from Great Britain down to the Isle of Capri.

Upon coming home, I looked forward to settling into a new position in the Denver area. This happened quickly in the late 1980’s, landing at a Cad-Cam software company as a Fortran programmer. We used MANMAN software on top of a VAX/VMS system. Several years into this position, the company purchased Oracle Applications software. We had six modules which ran on Oracle Applications version 9.4.2. Migrating from the MANMAN system into the Oracle Applications system was certainly a challenge, as Oracle was a new way of thinking: a relational database and integrated application functionality. My responsibility included supporting Order Entry, Shipping, Inventory, and Purchasing modules. Debugging and support was also a challenge, as this was before Metalink. We communicated with Oracle via phone, fax, and some e-mail. What a great tool we now have in dealing with Oracle Support via My Oracle Support.

Speaking of support on more of a local level... During my years of professional development, RMOUG became an integral part of my Oracle growth. The user group meetings moved locations throughout the years, but I began to see familiar faces as the months and years of meetings contin-

ued. This is where my technical and industry networking truly began, providing a collaborative arena for sharing information, technical disasters, and solutions, as well as building friendships. A number of contacts I met, even in this first few years, remain a part of my network today. RMOUG has offered increasingly applicable sessions at the meetings and conferences over the years. The resource base that attends and presents at RMOUG events is proficient in a vast number of skill sets. They provide many benefits to people in different areas of interest within the Oracle product suite. The most recent RMOUG Training Days in the Denver Convention Center was academic and especially enjoyable, since I was drawn as a winner of a $100 gift certificate. The benefits definitely range from professional to personal!

Back to the historical flowchart ...The early 90’s was an era of many implementations of Oracle Applications on the Front Range of Colorado. Many consulting companies sprang up, and my network began to grow. From the user-group meetings, to OAUG, to on-site consultants, the Front Range seemed like a close-knit Oracle community. After five years as an employee at the Cad-Cam company, I embarked on a new phase of life: kids and my independent consulting business. A family of three kids, along with a flexible work schedule created a desirable work-life balance. I contracted for five different companies over the next nine years, mostly in Colorado. These contracts were all in the Oracle Applications arena, mostly in the OE, Shipping, Inventory, and Finance (GL, AR, AP) modules. I was a part of migrations from 9.2 -> 10.2 -> 10.7 NCA. During
During the Y2k era, I landed a permanent position at a publishing company as Senior Oracle Applications Systems Analyst. I worked with one DBA and one System Administrator. Oracle had just been implemented with the help of Oracle Consulting Services. There were 11 modules implemented. This was one of a few customers implementing on the Windows Server platform. The environment ran on a Windows Database server, Windows middle-tier, and Windows clients, on version 10.7 NCA. This was a challenging design, as Oracle support had scant resources to support this platform. This was a frustrating time, as Oracle and their client base grew into a working knowledge of this environment.

After five years of establishing stability in the 11 modules, we added new resources to support the Oracle Applications. I performed every task from patch research, custom reporting, business process change, project management, end-user training, mid-night shipping emergency support, and last but not least: Upgrades. I was project lead for the 10.7 NCA to 11i Upgrade. This was an undertaking on the Windows platform; it included the 3-Tier to 2-Tier server change, as well as the EUL changes along with new application functionality. Some highly visible projects during this tenure included: Developing new formats for AR Invoices and AR Statements which included payment stubs with MICR encoding; Cash Management reconciliation and Bank Interfaces for lock-box processing; Implementation of Oracle Pricing and Modifier functionality (saving $90k annually); new iPayment functionality and QAS address validation (saving a combined $105k annually); Implementing a custom email confirmation system including customer and production line support notification (saving $100k annually); Implementation of BiPublisher; and a customer Shipping interface with SPSS/Manifest system, including a freight customization (saving $30k annually).

In the mid-2000’s I took a year-long leave to concentrate on family life. During this time, there were many changes; a new home and family structure with kids exiting the house. My out-of-work interests with family and friends include tennis and skiing activities, running races, photography, and growing faith and fellowship in our local church community. When the time came to look for another position, the consulting opportunity again afforded me flexible contracts in the Denver, which I pursued for two years.

As the market continued to change in 2008-9, I again sought an employee position. Life certainly has its surprises. After 20 years I ended up taking a position at the same utility company that hired me straight out of college. It was like ‘coming home’. Although it had quadrupled its size, there were familiar faces in the hallways. I was hired as a Senior Oracle Systems Analyst working on 11i/10g database. Several notable accomplishments in the EBS suite have included: Using BiPublisher with the EBS suite to develop AR Invoices and Statements with Dynamic Logos based on Organization ID; Interfacing these documents for print, fax, email delivery to a 3rd party software. This brought a near-paperless era for the finance departments, saving time, money, and increasing efficiency & accuracy of delivery. A related project included converting existing FSGs to run on the BiPublisher toolset. Noetix, being the underlying view structure for Discoverer, needed an upgrade. So, took the lead in upgrading to current versions. I am currently an integral resource for upgrading EBS to R12 with plans to go-live mid-2011. We have a fair amount of customizations; plan to migrate to new products including OBIEE, and have many disparate systems requiring interfaces to Oracle EBS. This is an ever-changing environment which will keep me challenged for the upcoming years. New Oracle products continue to surface: Dashboards, EUL products, etc. These products are certain to bring us into a new era.

Oracle has been a great choice for me; an evolving profession over the last 25 years. Technology continues to change and encourages us onto the next generation. Never a dull moment! Best of luck to you as you continue to experience the world of Oracle. And ‘Thank You’ to the RMOUG founders and staff for providing such a continuing educational and relational user group experience in the Rocky Mountain region.

A few examples of Lisa's superb photography. Above: Catching the ball in the air on her daughter's backhand. Below: Lisa's cover of the Fall 2010 Issue of SQL>Update
Welcome to RMOUG’s New Board Members

John Jeunnette is a Principal Consultant at Prairie Systems Group, Limited, a consulting organization specializing in application development using the Oracle Toolset. He has more than 20 years of experience working with Oracle and has developed applications in a variety of industry areas for large and small clients throughout the United States and in England and Ethiopia. John has created several large PL/SQL Web Toolkit-based applications including the RMOUG conference abstract submission and review application. He continues to work on creative ways to leverage the power of the toolkit for internet-based application development.

Most recently, he has focused on Web-based applications using Oracle Developer, Oracle Designer, the PL/SQL Web Toolkit, and Oracle E-Business Suite administration.

John will be serving as Training Days Director for 2011-2012.

Kellyn Pot'vin is a talented and accomplished multi-platform database administrator with 11 years of extensive experience in Oracle and SQL Server, numerous years experience in MySQL, Sybase and other database administration, database group management and technical project management.

A proven ability to implement large-scale database servers for enterprise level environments, repeatable success in high-end environment performance tuning, migrations, disaster recovery and implementation. Fluent as a liaison between technical and non-technical users and able to build trust through proven reliability and initiative.


Kellyn will be serving as Membership Director for 2011-2012.

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I was asked to do the Board Focus article for this newsletter... so I looked at the prior two Newsletters to get an idea of what this article should be about, and lo and behold it appears that it is about me!

Over the past six years I have been focusing on who I am and what I want in my life. One thing I know that I want is a happy life, so I have started writing my feelings about what makes me happy and read the positive thoughts of others. One thing I wrote about how I feel is, “Smile and put a sparkle in my eyes!” For many years I have enjoyed sharing my smile with someone each and every day which I plan to continue for the rest of my life. This is a famous quote by an unknown author about smiles that I really enjoy,

Accepting the results without forcing your perception will give meaning and enlightenment in your life. Struggles in reaching your results are indications that you’re forcing your perception....

Accept what you are given and let your acceptance, not your perception, guide your steps moving forward in life!

Growing up I always went after what I wanted and usually obtained whatever those goals were; however, I found the results were always less than what I expected, in part because I had no guidance or any clear indication of what my goals should be or what I should do with my life. My parents, God bless their souls, loved all of us kids; however, their lives were primarily focused on their love for each other. I don’t recall any of us ever getting clear directions from them on what to do with our lives. I do remember them telling us that they wanted us to graduate from High School and as it turned out I was the only one that didn’t.

In May of 1975 I finished my junior year in High School and my parents had moved again. What this meant was, if I stayed at home and finished my senior year that I would’ve attended 15 schools out of 12 grades to graduate from High School. So on my birthday in May I told my parents I was moving to Idaho so I could learn a trade doing Drywall. The next day I left home with a goal to become a Journeyman Drywaller. I have made lots of mistakes, learned lots of lessons and did many things I am proud of and a few that I am not so proud of since then. However, I can say that I have always tried to live my life to its fullest capacity and overall I am very happy with who I am today and what I have accomplished.
In 1982 I moved back to Denver and later that year my life nearly ended in an automobile accident on I-76 near mile marker #12. While driving a ¾ ton 4x4 Chevrolet Pickup Truck late at night I fell asleep at the wheel. The accident put me in a coma and left me with a loss of memory. To piece that night together, later on after I recovered, I talked to individuals that were aware of the circumstances to find out what had happened. What I found out was that apparently I was moving my last load to a new house I had just rented. A couple of friends told me I stopped at Burger King with them to grab a burger at approximately 1:00 am and then left to go home. I was told that a state patrol had found me in the seat of my truck close to death. They had estimated I was doing 65 miles per hour when I ran head on into the center pylon of an overpass. Had I been wearing my seat belt the steering wheel would have crushed the life out of me! Since that accident I have made it a point to always wear my seat belt as I believe the odds are better for survival wearing one then not wearing one.

As it was I nearly died that night. After being airlifted to Saint Anthony’s Central I was in a coma for a couple of days and finally awoke a week later asking the nurse to untie my leg so I could get up and go to work. I now know that this incident was my initial call to make me aware of the metaphysical world as I would soon learn that I could heal myself through meditation and physical therapy. I still remember my physician’s name, Dr. Lotman, and asking him during my month stay at the hospital when he would give me a doctor’s release to go back to work. He replied to me with confidence, “Not for at least six months!” Three months later at his office I witnessed his jaw drop when he looked at my broken arm and then at my X-rays for both my arm and leg. Before I left his office he signed a work release for me to go back to work, just three months after the accident. Apparently I had discovered new abilities through self meditation that could help me recover quickly and at the age of 25 I am not sure I even realized that it was anything extraordinary!

Then in the fall of 1986 I moved to Florida for work, living in West Palm Beach. In the summer of 1987 at the house I was staying at, I was living in a room that was built on top of the roof which was three stories up. The roof was flat with about a two foot rising wall that sloped outwards with wood shingles all around the perimeter, allowing you to walk along the entire roof. Early one morning I awoke with my dog barking, so I walked out onto the roof to look down at the driveway to see if someone had arrived. Still sleepy, I tripped over a drain close to the edge which caused me to fall off the roof and land on the cement driveway below. As a result of this injury I stayed in the hospital for a month.

This accident left me with no choice but to give up my career in Drywall. The doctors told me if I re-injured my back that there was a 95% chance I would never walk again and a 75% chance I would re-injure it if I continued my Drywall career. After being released from the hospital I found everyone had been evicted from that house where I was injured, and as a result I had lost my dog, my tools and all of my personal items that were there while I was in the hospital. I felt very fortunate that I had a friend who was able to find someone to send us money for a bus fair back to Denver a little over a month after leaving the hospital. When I arrived back in Denver I weighed 99 lbs, didn’t have a penny in my pockets and was wearing the only clothes I owned along with my newly acquired back brace.

Three years later, in December of 1990, I graduated from Community College of Denver with an AAS Degree in Computer Programming for Business. Thus began my new career in computers. In 1994 I went back to school at Regis University and graduated with honors in 2000 acquiring two Bachelor of Science degrees, one in Information Systems and the other in Business Administration with an emphasis in management. My work in Oracle began in 1995 with the conversion of an IBM mainframe running a VSAM database to an IBM Unix server running an Oracle 7.0 database. This conversion was completed in 1997, and during those two years I took leave of my studies at Regis University to concentrate my efforts on our conversion work at my job.

After the conversion was completed in February of 1997 I attended my first Training Days with RMOUG. I was so impressed that I promptly joined RMOUG as a member and that summer continued with my studies at Regis University. After graduating in May of 2000 I volunteered to...
work with Doug Faughnan on the RMOUG website and became a board member at large. I submitted my nomination for the board in 2001 and was voted to the board in 2002 and have been serving on the Board of Directors since that time. Doug was a great mentor and I became friends with him and Stan Yellott during the first couple of years of my volunteer work with RMOUG.

I did find a picture of Stan but could not locate one of Doug. So I included a few other pictures of other people I have known and consider friends to take the place of his picture, which I believe he would approve of.

Doug and Stan carried a passion for all of their efforts they made in their volunteer work and as Board Members for RMOUG.

I have tried to continue my efforts with my RMOUG volunteer work and as a Board Member with the same passion they carried. After becoming a board member in May of 2002, over the next 3 years I held the Director of Information Systems. During this time I organized a volunteer team of approximately 15 volunteers to work on developing RMOUG’s IT systems to use for our organization. For our first project we converted the RMOUG website to W3C standards. It was my plan to continue building our IT infrastructure using two other servers we had purchased at that time. One server would run our Oracle databases and the other would be a test bed to be used by our members and volunteers.

However, that project was put on hold as we ran into issues trying to acquire software from Oracle. Due to our corporate structure Oracle could not donate the software to our group and we did not have the funds to purchase the software. After discussing this work with Stan Yellott, I started an initiative to acquire a non-profit corporate structure for RMOUG. This new corporate structure was completed a couple of years ago in 2009.

This coming board election for the 2011/2012 board year will mark my 10th straight year of serving on the Board of Directors for RMOUG. During this tenure I have had the opportunity to serve on the board in the positions of Director of IS, President, Director of Membership and Director of Training Days. Honestly, I can look back at my efforts during this time and believe they have provided benefits to our members, which puts a smile on my face to know that my efforts have indeed been worth while.

Just having the opportunity to have had the small amount of time to work with Doug and Stan brings a smile to my face… thus I can say happily that my experience with RMOUG has been filled with many smiles from all of the volunteers I have had the pleasure to work with and I want you all to know that your smiles have put many sparkles in my eyes!

My youngest daughter is now enrolled in college and engaged. Her older sister is married and they have a three year old daughter and two year old son. My life is full of smiles whenever I am around all of my family and friends and as I drive into my driveway at my home in the mountains! Now all I have to do to put sparkles in my eyes is to walk out on my deck late at night and stare into the clear night sky at all of the stars.

In 2010 I was able to drop 4 activities from my bucket list of activities to do. The activities were skydiving, river rafting, hiking the Inca Trail to Machu Picchu and dressing up for Halloween wearing my stilts.
RMOUG Board of Directors

Meet Your Board

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Treasurer@rmoug.org

Kellyn Pot’vin
Membership & Vendors Director
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John Jenuette
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Pat Van Buskirk
Newsletter Director
E-mail: NewsletterDir@rmoug.org
**RMOUG Events Calendar**

6/18/11  Newsletter  Newsletter - Mail Date Summer Issue


7/5/11  QEW  RMOUG Quarterly Educational Workshop - Call for Presentations for 8/19 meeting

7/12/11  Board  RMOUG Board Meeting - Regis University Denver

7/12/11  DBLabs  Oracle Automatic SQL Tuning Features with Brad Blake and Darl Kuhn - Regis University Denver

7/22/11  QEW  RMOUG Quarterly Educational Workshop - Preliminary Agenda for 8/19 meeting

7/29/11  QEW  RMOUG Quarterly Educational Workshop - Deadline for Presentations for 8/19 meeting

8/18/11  Conference  NoCOUG Summer Conference - Chevron - San Ramon, CA (www.nocoug.org)

8/19/11  Board  RMOUG Board Meeting - location to-be-determined

8/19/11  QEW  RMOUG Quarterly Educational Workshop - location to-be-determined

9/5/11  Training Days  Training Days 2012 - Call For Papers begins

9/13/11  Board  RMOUG Board Meeting - location to-be-determined

9/14/11  Conference  UTOUG Fall Symposium - Radisson - Salt Lake City, UT (www.utoug.org)

9/23/11  Training Days  Training Days 2012 - Call For Papers ends (first notice)

9/27/11  QEW  RMOUG Quarterly Educational Workshop - Call for Presentations for 11/18 meeting

9/30/11  Training Days  Training Days 2012 - Call For Papers ends (final notice)

10/2-6/11  Conference  Oracle Open World - Moscone Convention Center - San Francisco, CA

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

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Contact Carolyn Fryc - Programs Director - 720-221-4432 - cfryc@orsportal.com

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Join us for our next Quarterly Education Workshop in August at the Oracle Sun Campus. 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 May Training Topics

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