Moving on from an ADP database

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My background

- Started in mainframe/mini development (punched cards and green screens) – COBOL, Algol68R, Fortran
- Mid 80's - came the PC into business
- Used Windows since v2.x and Access developer since the 1st beta (this does not, necessarily, make me an expert!)
- 20 years of IT Management dabbling in code for internal needs
- Now self-employed, I have three development areas:
  - Turn data into information - long term (pseudo-)agile/prototyping projects
  - Build new systems to replace rubbish or outmoded system
  - Take over maintenance
- That's my excuse list finished ☺

Agenda

- Scenario
- Starting up a migration project
- An interruption
- Issues
- A second interruption
- Summary and thoughts

- Note: this isn't meant to be definite, it is my story from my front line and therefore will not be complete!

Part 1 – Scenario

- Customer was an inherited 2003 project using ADP to SQL 2000 (although that did move to SQL 2008 R2)

- The impact of changing from 2003 to modern Access was deeply inhibiting (for them and me)

- We were stuck at 2010 Runtime as this is the last one to have the ADP capability (thanks Microsoft!)

- Ongoing changes at the client meant a move to 2013/2016 increasingly desirable (mainly UI and UX)

- Eventually it became necessary (lack of 2003 security patching support); and as a big project was imminent we rolled the move from ADP into it.

Part 2 – Starting up (1/2)

- This is not a definitive list, these are main lessons learned:

- Document the database – identify Stored Procedures in the SQL Server

- Remove the connection and relink all your tables and views

- Remove the dbo_ prefix from all the table and view names (or change *all* your code!)

- Then check form recordsources and combo box record sources. They may have hardcoded dbo.[table].[field] references which break. Not found a pattern to it.

Part 2 – Starting up (2/2)

- Every view will need an identifiable, unique column to be updateable, this may take some investigation before you can set it. Indeed some views may not have it – PROBLEM!

- Look for use of Stored Procedures in code (search for the name)

- Bigint breaks in Access 2010

- Reserved words for column names (NAME, TYPE)

- DO EVERYTHING WITH T-SQL SCRIPTS. They are reliable and repeatable !!

That crisis

- A bit of a diversion from the subject, but a valuable lesson.
- Big project under way to massively improve the system.
- We'd committed to moving away from Access 2003.
- Lots of new code to replace one web API and comms method with another
- 2003-2010 ADP change just initiated
- Something changed…

- Reverse all the web comms stuff, and go live asap.
- 36 builds in the first week of go live

Part 3 – Ongoing Issues (1/2)

- Watch out for tables without an identity column. Create one so you can **always** have an updateable link.

- BIGINT AGAIN

- DELETE FROM in a SQL statement doesn't work if the table is empty under db.execute, use currentproject.connection.execute strsql (or similar)

- Issues with docmd.exit, changed to application.quit, but even then I get an error in dev (I've NFA'd it for now).

- Docmd.runsql gives errors under the new environment – so had to code docmd.setwarnings true false around it (or have users told how many records affected).

Part 3 – Ongoing Issues (2/2)

- Problems with the main form – the old "double update" so a quick hack (that is still there!).

```
Private Sub Membership_Date_AfterUpdate()
Dim DAOdb As ADODB.Connection   '<---- Modified after conference just for Adrian :-)
Dim strDetails As String
    'have to update the underlying record
    strDetails = SQL_Date(Me.Membership_Date)
    Set DAOdb = CurrentProject.Connection
    strSQL = "UPDATE Membership SET [Membership Date] = #" & strDetails & "# WHERE
    DAOdb.Execute strSQL, adCmdText
    Set DAOdb = Nothing
    Me.Undo
    Me.Requery
End Sub
```

- DSN-less connections are less good with 2010 (in my experience), the switching code I used broke down, and needed modification (as it had come from the 2013/16 world)

- Views with sorts, the sort didn't come through (change for form/report source SQL)

- Record Cycling -

Cycle	Current Record	▼

Interruption – those SQL hints

- As I wrote on Friday on the listserver – remembering the SQL upsizing hints is quite useful.
  - Indexes – don't use an index as identity
  - Bookmarking latest inserted record works differently
  - You need dbSeeChanges on recordsets
  - SELECT INTO – make this an SP
  - Continuous forms (my thing on Friday) – make them snapshot, and popup an edit form
  - Use parameters (in the b/e) to filter views for efficiency
  - Functions – need to be rewritten in SQL
  - Avoid format as it doesn't match dbo.format
  - What did you do in the Boolean Wars?

Part 4 – Summary & thoughts

- This is as much a 2003-2010 migration as it is an ADP to a non-ADP project (you've done that... probably)

- I wish the promised SQL connector was here

- If you are not on 2010 runtime, move there, migrate from ADP to SQL, then upgrade to 2013/2016 runtime

- Accept that you will need to compromise on the design and code of the database whilst you get to grips with it.

- Go live, and tweak (especially for performance issues – don't waste time coding out every inefficiency you can see – they may not manifest themselves).

- Oh, I didn't use MUSTaaS (it predated my source code ownership)

Things I'd like to change

- It'd be nice to jump straight to 2016 for bigint, instead I had to modify the schema

- db.execute issue

- Bound and unbound forms are in the system and a pain

- Doing it in a hurry is not a good idea! 36 builds in the first week of go live. But on the other hand, the client going out of business isn't great either.

- Full SQL 2016 connection that is promised with a no-migration recompile would be cool

Help for Heroes

- I'm doing my 8th bike ride – 320 miles (the long way) from Compiegne to Mons in June.
- If you would like to donate – http://bit.ly/pjb2018!

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Business Card.yml ☒   Business Card XML.xml ☒

```
 1   {
 2       "Name":"Peter Bryant",
 3       "Company":"Corylus Business Systems",
 4       "Contact_Details":{
 5           "Phone":"+44(7970)0953403",
 6           "Mobile":"+44(1945)429111",
 7           "Email":"pbryant@corylus-business.co.uk",
 8           "Web":"www.corylus-business.co.uk",
 9           "Twitter":"@pjbryant"
10       },
11       "Skills":[
12           "Turning Data into Information",
13           "Project Management",
14           "Access and SQL Development"
15       ]
```

File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?   X

Business Card.yml ✕   Business Card XML.xml ✕

```xml
 1  <card>
 2      <name>Peter Bryant</name>
 3      <company>Corylus Business Systems</company>
 4      <contactdetails>
 5          <phone>+44(7970)0953403</phone>
 6          <mobile>+44(1945)429111</mobile>
 7          <email>pbryant@corylus-business.co.uk</email>
 8          <web>www.corylus-business.co.uk</web>
 9          <twitter>@pjbryant</twitter>
10      </contactdetails>
11      <skills>
12          <data>Turning Data into Information</data>
13          <projects>Project Management<projects>
14          <databases>Access and SQL Development</databases>
15  </card>
16
```

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