4SYNERGY

Consolidation again
(On Exadata this time)

Piet de Visser
The <u>Simple</u> Oracle DBA
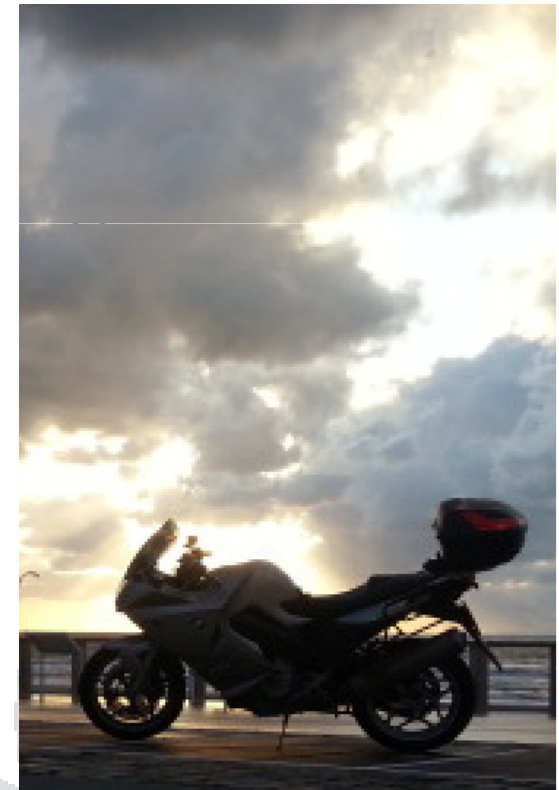
Favorite Quotes: "The Limitation shows the master" (Goethe), "Simplicity is not a luxury, it is a necessity. Unfortunately, "Complex' solutions sell better. (EW Dijkstra).

hroug

14. - 17. 10. 2014. @ Crveni otok, Rovinj

Agenda   (approx 45 minutes)   PdVBV

History   (how often...)

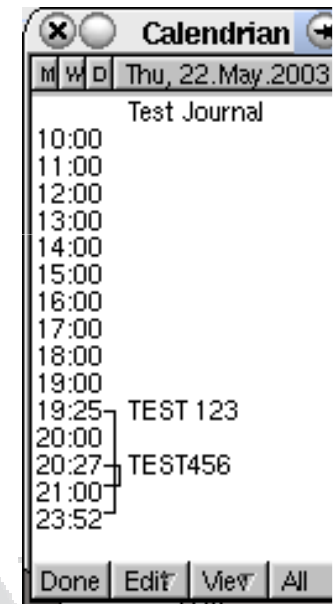**Case description (why)**   (Clever Sales)

Migration..   (Let's do it)

What _do_ I see   (it depends)

Did it ever work ?   (you tell me)
10 min Discussion   (Do Challenge!)

Agenda: why we had to consolidate on Exadata. Why consolidation can or cannot work. Tricks...

How often did we consolidate… PdVBV

First: 1 database on 1 server.

Next: multiple databases on 1 server

Next: many servers, 1 db per server (vm-farm)

Next: OPS/RAC: 1 db on multiple servers

Next: multiple RAC db on multiple servers

Next: RAC-1-node (Many db on 1 cluster)

Next: 12c: CDB + Plugins…
(on 1 or more servers)

We have seen many configurations by now, and most configuration designed for "cost saving: failed
Reasons why "consolidation" can or cannot work are complicated…

3

We were simply ordered to move as many databases onto as few machines as possible…
Japanese : Oshiya = pusher

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Confusion, FUD, clever/Cunning Sales…

Client is MNC
    had some license deal with Oracle
    outsourced IT to "service provider"
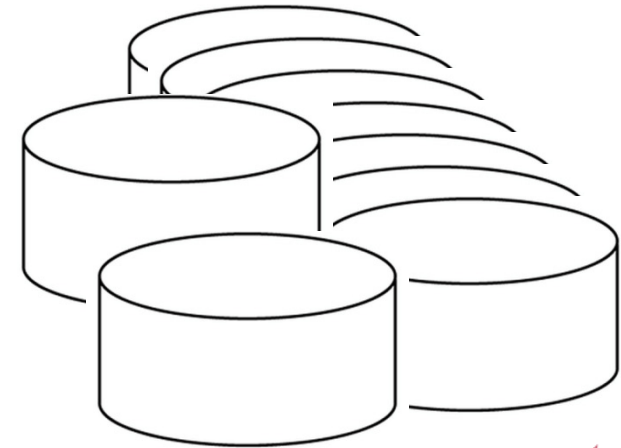
Business remains "enthusiastic consumer of IT"
    many (IT) projects, many databases…

Provider and Software vendors:
    Create databases "when needed"

Situation happened because "business" and "provider" both had a drive to grow, to create many systems and databases.

Why consolidate this time ?   (2 / 2)   PdVBV

Business
- Growing, need projects, need DBs !
- Provider: happy to "provide" (more work)

Few years later: License Scan - too many !
- 1000s of databases, all over organisation

Clever Sales + Lawyers …

Deal:
- Use Exadata, and we forget …

Once the data centres had too many databases, the lawyers and salespeople forced a new deal..
"Use Exadata and we forget all about it"

Deal : Exadata   PdVBV

Client:
- Needs to "get out of jail"
- (IT knowledge, DEV/OPS, has "evaporated")

Oracle:
- Needs to meet Exa-data sales target.
- More Exa machines will follow…

Provider (the system admins)
- get percentage
- Eager to use new technology

The deal looks like a win/win : client is "safe", Oracle can meet target, and provide is happy with new toys.. Euforia !

7

Business : doesn't care, System has to WORK

- **Need to run processes**
- **IT is necessary, but not prime-focus**
- **IT "changes": Problem, but not "our problem"**

Project managers: Limited horizon, hit and run.

- **Have mission, must stay on Budget.**
- **Declare succes, move to bigger project.**

IT "service provider": Suck Time…

- **Spend time, get "extra" work…**

The "Business" is slightly annoyed: they didn't ask for another change/cycle/disruption.
The project–managers want to declare success and move on, the Service provider: want to :work"

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Implementations starting..

- **(better: Migrations)**
- **"Must Happen" projects.**

IT(-provider) sets the rules (must-use-service)

- **New and more strickt Environment**
- **Migration-methods: dictated.**
- **No Dev / Test (existing systems…)**
- **DRP: only after go-live.. ???**

Migration–projects have started… new envirnments much more restricted, and no real room for dev/test
Feels like Indiana jones running in front of a rolling stone

9

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Dev/Testing: none ???

- Would need additional, extra system

Restrictions:

- Less privs (awr, v$, sys-packages..)
- More outages (patches dictated by IT)

Support .. (if any):

- Discovering Exa "This system was given to us…"
- The DBA team (operators), only know "database"
- No monitoring (runaways…)

Once this ball is rolling: Restrictions ! Test becomes "extra system" and expensive ((t it is the same dabase, why do you want to test..).. New system is much more restricted. And Support : "discovering" Exadata
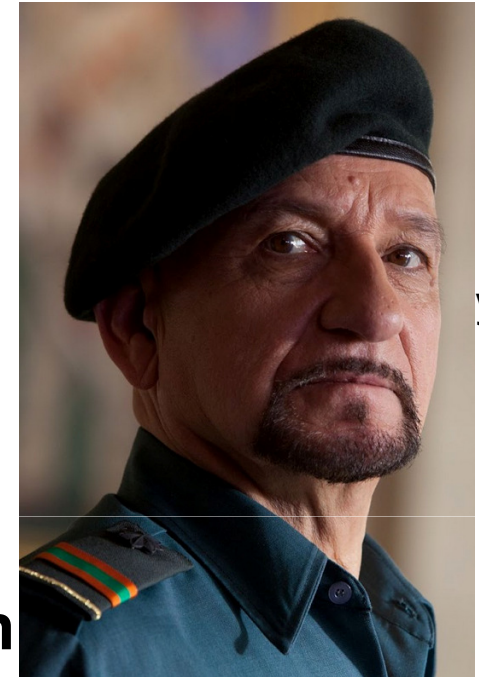
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Migration:

- **"Provider" prefers exp/imp (loooong)**
- **OK then…: Datapump (still long!)**

Alternatives we asked for:

- **Rman: DBA afraid of version problems.**
- **Backup/restore/recover : afraid of version problems**
- **Standby: real Version problem.**
- **Streams: Version problem + complex to setup**
- **Golden-Gate: long lead-time, and Expensive.**

We discover that this "must do" migration is a coup. A dictator seized Power…
IT provider is now .. In charge.

What business (users) discover.. (3/3)   PdVBV

DRP:

- Only after "Go Live"
- Standby database (DG) on "other system"
- Testing DRP not included (it just works … ??)
- DRP is more then just DG: the Application…
- Had to declare "accept" as "live" to test DRP.

Monitoring: no Babysitters ?

- During Migration: File system full (on FTP!)
- From AWR we can see system busy/not…
- Runaways from DBA and other system ????

During migration we discover more and more "lacking preparation"
You can see why "consolidation" is sometimes a challenge..

Warning:

– **"You should behave like good neighbour…"**

Some Applictions are "noisy"

– **CPU-runaways**

– **Memory leaks**

– **Log, trace-files grow, are kept forever ??**

Who checks this ?

– **Users! We notice the "noise" (also via AWR !)**

– **But who is causing it ?**

We even got warning: don't be noise, be a good neighbour..
But when we suffered (awr showed it), nobody could tell who made the noise…

Consolidation: is possible…

Cost savings - Really ?

- Extra effort to consolidate.
- Savings "on paper" ?

Simpler "admin" – Really ?

- Consolidated system is more Complex
- (not on purpose, but that just happens)

Benefits? … Potentially, Yes. If done "Well"

During migration we discover more and more "lacking preparation"
You can see why "consolidation" is sometimes a challenge..

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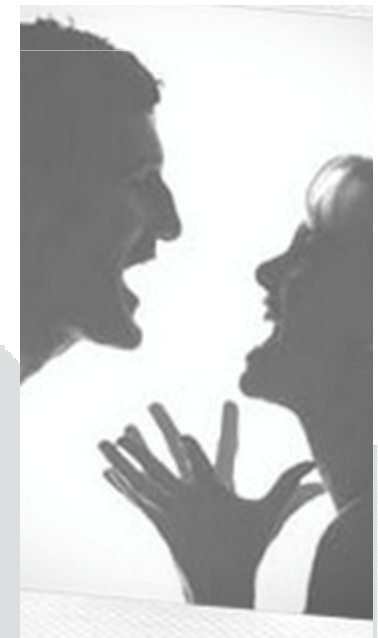**Co-habitation: The real problem.**

- **Living with a partner is complicated,**
- **Living with mother-in-law is more complicated**
- **Living with strangers is… difficult.**

(Planned)Outages now need more parties.

- **Who decides ? (nobody: IT Dictates !)**

Troubleshooting: Complex.

- **Every other party is "suspect"**

The technical and "organizational" issues pup up quickly.
And the drive to consolidate is solely from IT, the business will want "own system" again…

15

Consolidate?

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City-living: (would you?)

I know too many "bad" examples of consolidation … People and Organisations probablhy want to "differ", rather then to "consolidate". And nobody likes "constraints"

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Analogy: Military
Is this your business ?
(was it fun?)

Military: "consolidated" units, but under strict command, and with a common goal.
Business units or IT systems are not comparable to Soldiers

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Analogy: Beehive (split, rather then merge)

Nature: does not consolidate. No "mergers" in nature ?
Opposite: nature tends to split: beebhives, herds,

Lessons: re-Think.   PdVBV

Be like a duck.
Remain calm on the surface
and paddle like
HELL underneath."
Michael Caine

- **Consolidation _may_ work.**
  - **If .. Business is unaware of it…**
  - **If .. IT is Capable, and Stealthy.**

- **Example: Email… (where is your mailbox?)**

- **Forced "consolidation" of (bespoke) systems … ?**
  - **Too many People factors involved.**
  - **Too many technical problems**
  - **Preferably not (… not yet…)**

If a system is dear and close to a business: the owner's sentiment, the desired "control", and the (unexpected) complexity of systems probably prevent easy consolidation. Re-think !

19
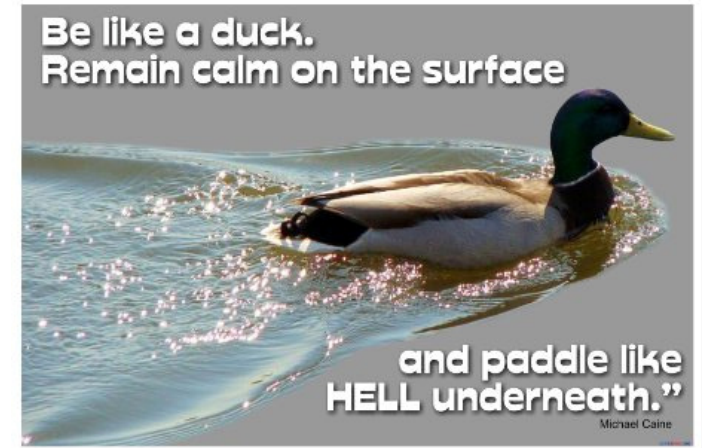
Don't Take my word for it...

Try for yourself..

Or think of these:

"Simplicity is a pre-requisite for Reliability" (Prof E. Dijkstra)

"The limitation shows the master" (Goethe)

Majority of times, I have been WRONG.
So go see for yourself – but don't complicate life.   "In der Beschrankung zeight sich der Meister"

- **Questions ?**

- **Reactions ?**

- **Experiences from the audience ?**

Question and Answer time. Discussion welcome   (what about that Razor?)
Teach me something: Tell me where you do NOT AGREE.

21

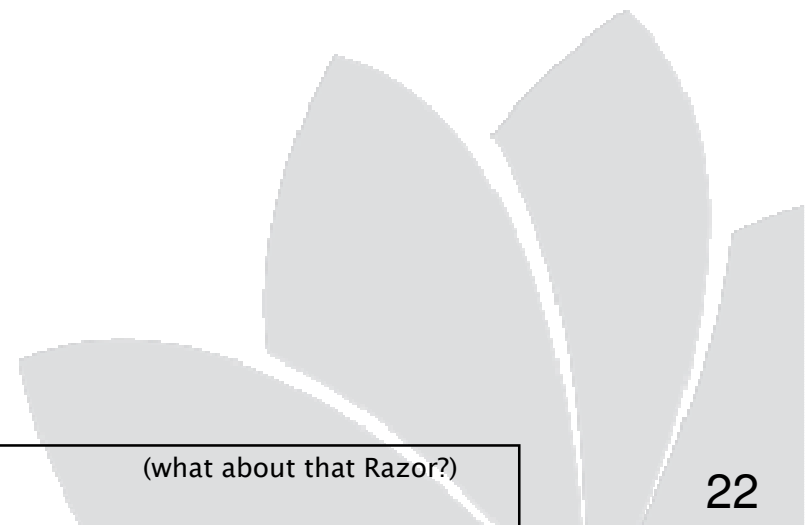# Lunch ...   PdVBV

Question and Answer time. Discussion welcome   (what about that Razor?)
Teach me something: Tell me where you do NOT AGREE.

What can you do... ?

Do what you can,

with what you have,

where you are.

Theodore Roosevelt

BURT GUMMER
Doin' What I Can With What I Got

There you are...
Theodore Roosevelt (or Burt Gummer @ Tremors)

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