

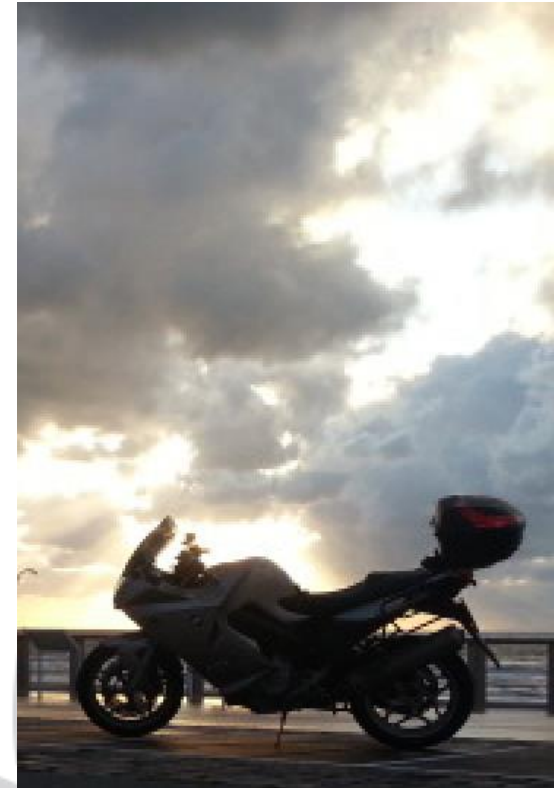


4SYNERGY

PdVBV

**Cloud service is Great
But you still have to think...**

Piet de Visser
The Simple Oracle DBA



DOAG

Favorite Quotes: "The Limitation shows the master" (Goethe), "Simplicity is not a luxury, it is a necessity. Unfortunately, 'Complex' solutions sell better. (EW Dijkstra).



Agenda

(approx 45 minutes)

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History

(servers...)

Unlimited Resources !

(Finally)

Cloud Risks.

- All you can Eat ?

- Errors !

(best pract..)

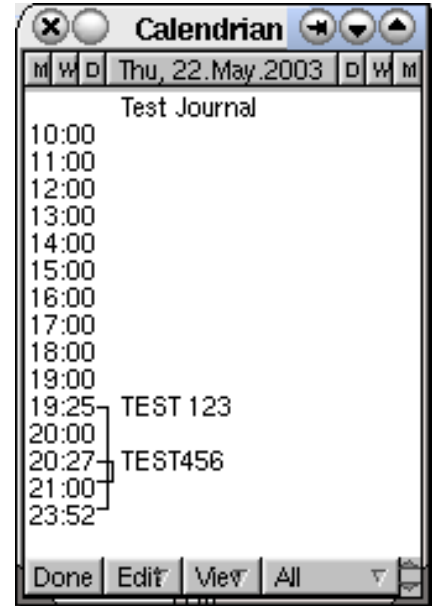
Positive note!

(it works)

Role of DevOps (the DBA) (it depends)

10 min Discussion

(Do Challenge!)





History of IT: “need More...”

Moore’s law, and “capacity will be used...”

Storage + Usage grow exponentially

System will become slower...



Never Enough, How to keep up ?

Buy more hardware ?

Future:

Big data? (unstructured data, cleverly indexed)

Only in “Cloud...”



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“Cloud” can give you...

(1/2)

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- **Very Quick start ... of any Idea / project / company**
 - **Just need Visa / MC / AMEX.**
- **Easy expansion (no fear of Success!)**
 - **And they want you to buy more....**
- **Resilience and Availability (bonus!)**
 - **Cloud datacentre vs your “server room”**
- **Reliable Network and Unlimited Bandwidth**
 - **At datacentre (not at your desk yet...)**





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“Cloud” can give you...

(2/2)

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- **Unlimited CPU + memory**
 - PAYG, Per hr..
 - Just need more Visa / MC / AMEX.
- **Unlimited Bandwidth**
 - Including “elastic”-IP and Load-Balancers
 - But you will get billed
- **Unlimited Storage**
 - Per GB per month...
- **“All you can eat” ... but not at fixed price.**



Bucket



Cloud services are very convenient. All you can eat...
Cloud vendor is like Telco-contract: you get billed per usage. (roaming cost)



“Cloud” will happen (IaaS, DBaaS,)

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- **“Distance” ? ... Is not an issue**
- **Network ? ... Fixable, to a point**
- **Confidentiality:**
 - Vpn and encrypted storage will “pass the audit”
 - (The risk is elsewhere)
- **Co\$t and Flexibility are ... Compelling.**
 - Resistance is futile.



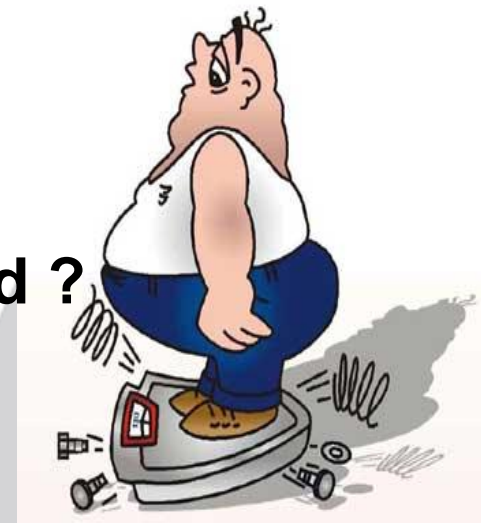


Beware: Application “Runaways”

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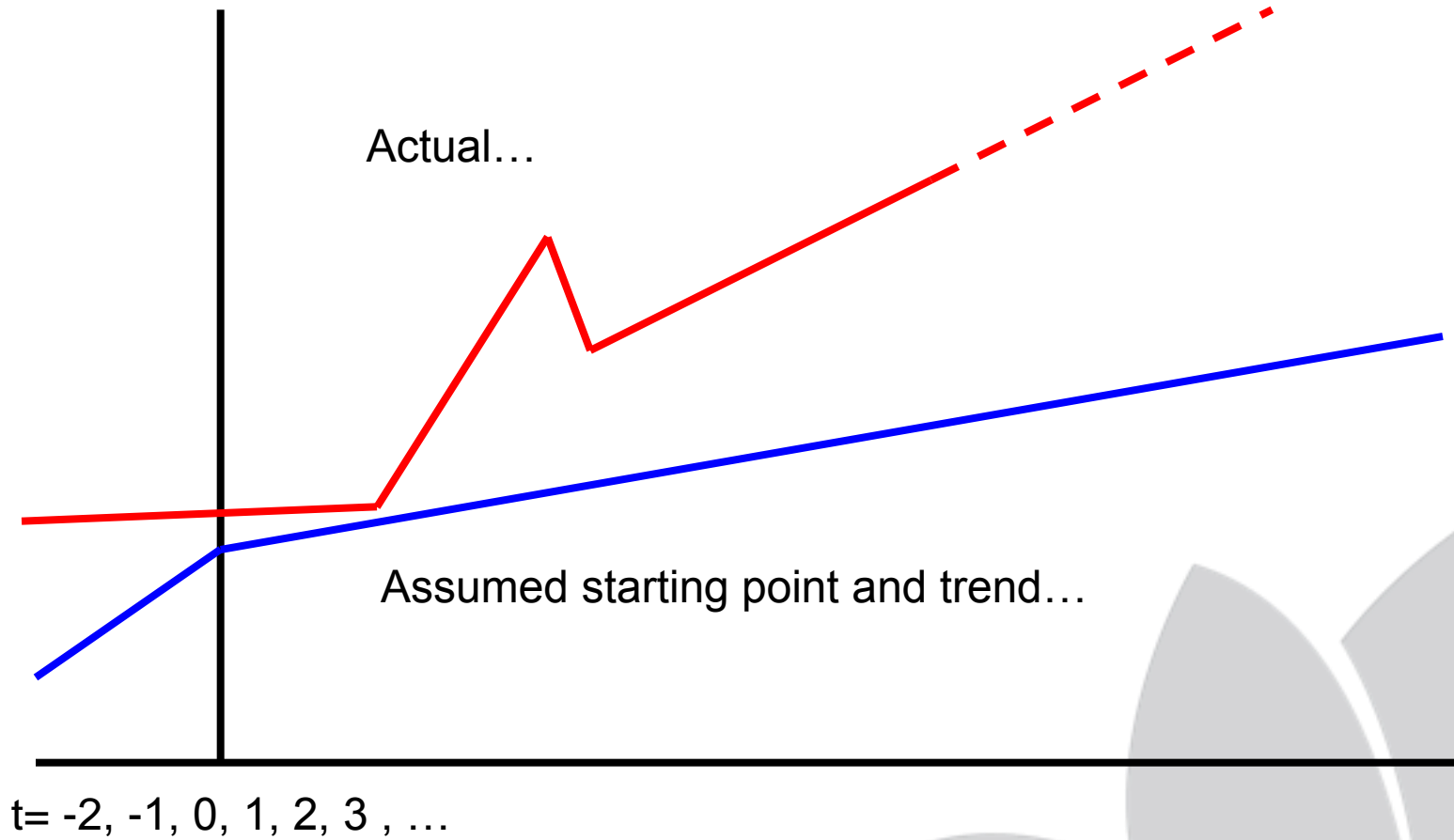
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- **Some Applications “leak”**
 - CPU-runaways
 - Memory leaks
 - (log)files grow, are kept forever .. ?
- **“Fix/Kill it With Iron” (KIWI) is too easy**
 - Automatic provisioning... ? .
- **Who checks this ?**
 - If not: How many EC2 and S3 do you need ?
- **Testing (load-, Duration-testing) Important**



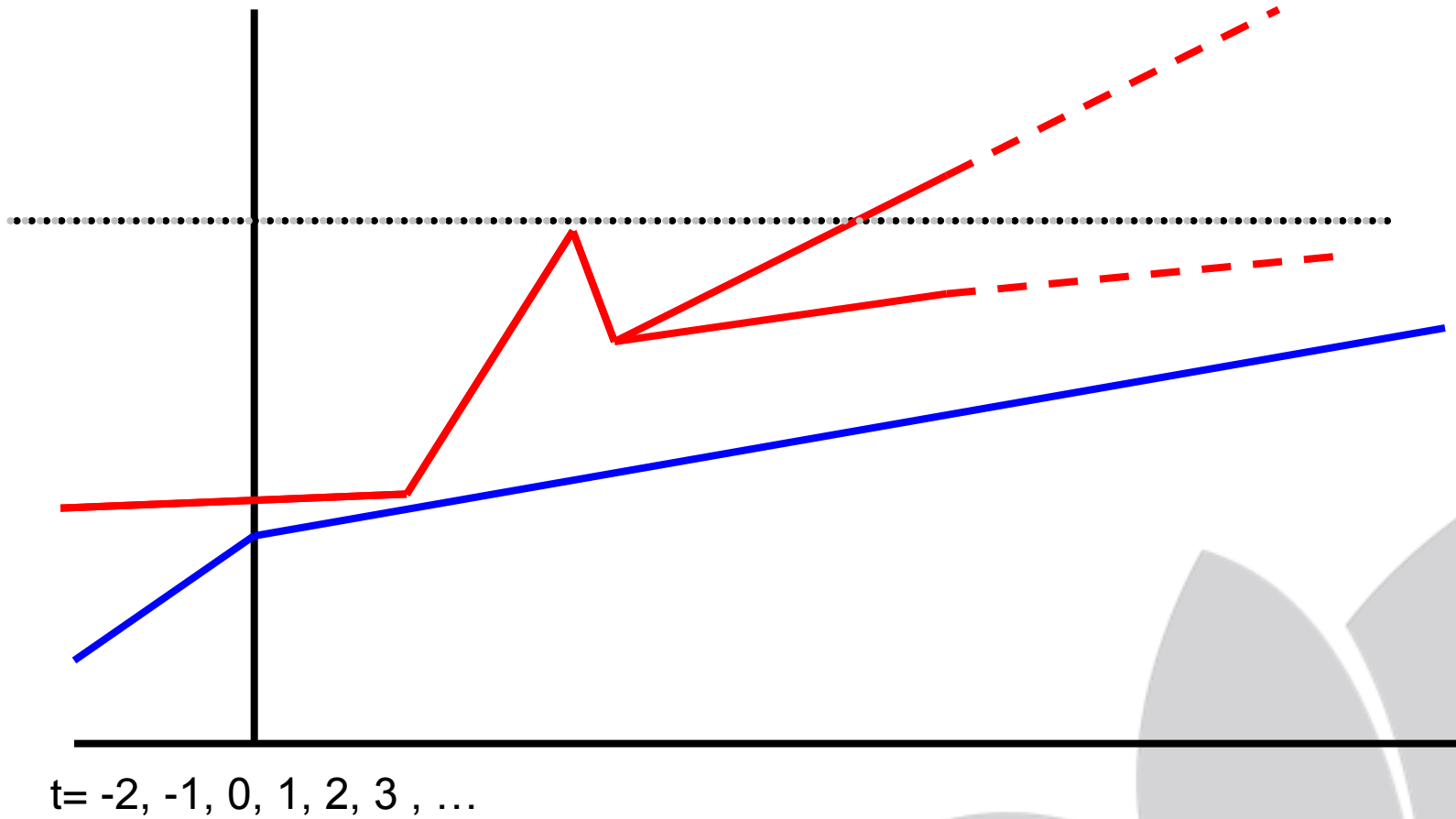


Look for Trends!





The Ceiling – Iron or Brains ?





I keep check using AWR...

DB Name	DB Id	Instance	Inst num
DATAHUBD	4096108834	DATAHUBD	1

Host Name	Platform	CPUs	Cores
ip-172-16-0-234	Linux x86 64-bit		

	Snap Id	Snap Time
Begin Snap:	72	07-Oct-13 10:00:01
End Snap:	73	07-Oct-13 10:17:09
Elapsed:		17.15 (mins)
DB Time:		0.00 (mins)

SQL ordered by Elapsed Time

No data exists for this section of the report.

Tablespace IO Stats

No data exists for this section of the report.

Jus tmy first dissapointment.. No AWR, no Statspack yet (we are working on this..) V\$SQL all visible, and LAB128 does work..



Plug for Statspack and Lab128...

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Activity Explorer - BDBP

Waits Show By: Events Timeouts Wait Time Include Idle

Active Session History: Show ASH Chart Include Sessions on CPU

Wait Event groups, time_waited, % Sel Avg = 2,755

Active Sessions Sel Avg = 31.2

12/28/2007 16:06:12 Clear Selection 50% length = 684s 0:11:24 12/28/2007 16:17:36

Delta 16:06:12 - 16:17:36, 684 secs apart Show Cumulative Include Inactive

Wait Event	Grp	Event Group	Waits/s	Timeouts/s	Time Waited, %
db file sequential read	8	User I/O	1889		1958
log file sync	5	Commit	289		332
ARCH wait on SENDREQ	7	Network	8.88		289
log file parallel write	9	System I/O	157		63.5
log file sequential read	9	System I/O	11.0		41.2

ASH for 16:06:12 - 16:17:36 ASH Settings **SQL_ID:** [25rq6643f8342](#) [411467331](#)

Summ	SQL_ID	Coord SQL	Activity, %	Elapsed, sec	In Wait, %	On CPU, sec
	25rq6643f8342		19.5	4443	98	88.0
	aaajqu8n6fptdn		16.8	4077	90	423
	4mfj0wa4y1ghp		8.4	1937	89	211
	65ha3tr06jdnq		5.4	1213	88	149
	fyx907r81dfwb		4.4	984	90	97.6
	8y39amqg581qp		3.1	704	77	159
	2b064ybzkwf1y		3.0	683	100	0
	39q014y6hsgv8		2.3	530	98	11.1
	1rnugrjn2cc9		2.3	517	99	5.58
	f4pj8vv5g4m4t		2.0	479	28	346
	1vhj8b1jsgqvd		1.8	411	99	3.75

Event	Grp	Event Group	User	Cnt	In Wait, %
db file sequential read	8	User I/O	SBDBA0	4701	100
latch: cache buffers chains	4	Concurrency	SBDBA0	1	100

```
SELECT FIRST_NAME,
LAST_NAME, ZIP FROM
DEMO.CUST_OLTP
```

Expand Explain Plan



(stateless) Application; can scale

- **Just add capacity (KIWI)**

Database is your SPOT (ACID) ...

- **Only 1 record with Balance!**
- **All “transactions” come there.**

• Most IaaS include resilience (...)

- **But nobody tests for Scalability.**
- **Inefficient code/SQL still hurts!**





Beware: DevOps (sysadmin) : Busy !

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- From “hardware”, to VMs, to ... Dashboard.
- Having unlimited “Machines” means...
 - More work for Sysadmin.
- Deployment !
 - Keep relevant components up to date !
- Monitoring, Verifying, Testing.
 - Make sure all works as intended. All the Time.
- Be ready for “Permanent Deployment”
 - Orchestration... (Chef, Puppet, Xebia)





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Gartner : IaaS

(or any HaaS)

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- Amazon...
- IBM, HP,
- Oracle ??
- Note: much more.
2 large customers ..
@ “unknown” provider.

Cloud... It does work.
Get Prepared...





What You can Do... (let them eat it)

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- **Prepare for “Cloud”**
 - Re-Define role for DevOPs (Sysadmin, DBA)
 - Get used to “external systems” (Network!)
- **Let it happen... (hand out a few cloud-machines)**
- **Focus on “deployment” and “testing”**
 - Define + Verify: How you want your systems to run.
- **Control: Growth of “Machines” in the cloud.**
- **Control: Monitor usage, Monitor Co\$**





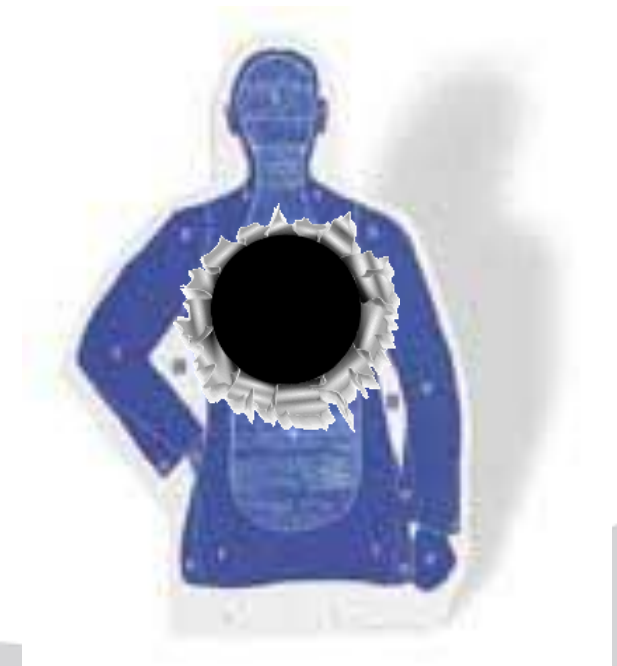
Quick Q & A (3 min ;-)

3 .. 2 .. 1 .. Zero

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- **Questions ?**
- **Reactions ?**
- **Experiences from the audience ?**





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notes

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- I GOT QUESTIONS,,,

