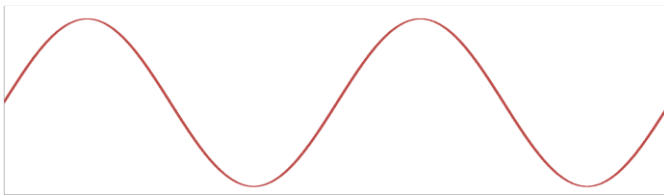


*Oracle Database and Middleware
Administration & Consultancy*



Maurits Groenenberg

Ruben de Vries



Sinus x

Rs Red Stack Consulting

Hoe Exadata juist in te zetten in beheer

Beheer Productie omgeving (Klant)
Housing and Hosting Provider (HaHP)
System Integrator (SI)

Oracle Stack

Klant: Application dev, fab

prod Middleware tab

HaHP: Database dba

OS linux

VM VM

network network

storage storage

Project: System Integrator: dev

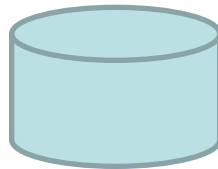
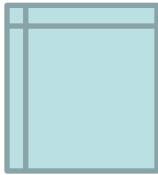


Backup / uitwijk

Oracle VM – cold clone, repository backup

Exadata – rman

Netapp Vfiler - snapshot



RACI

- Past het in de RACI ?!?

R	<ul style="list-style-type: none"> • Responsible • Who is/will be doing this task? • Who is assigned to work on this task?
A	<ul style="list-style-type: none"> • Accountable • Who's head will roll if this goes wrong? • Who has the authority to take decision?
C	<ul style="list-style-type: none"> • Consulted • Anyone who can tell me more about this task? • Any stakeholders already identified?
I	<ul style="list-style-type: none"> • Informed • Anyone whose work depends on this task? • Who has to be kept updated about the progress?

	A	B	C	D	E	F	G	H	I	J	K	L	M
		Project Team						Stakeholders					
1	Role	Program/Project Manager	Applications, Enterprise, Technology and Data Architects	Application Developer	Business Analyst	Resource Manager	Design Review Board (DRB)	Technology Support	Executive Committee (Class 4/5 Project)	Executive/Program/Project Sponsor	Account Manager/Service Manager	Key User	Steering Committee
2	Activity												
4	2.4. Understand Customer Need												
5	2.4.1 Evaluate Initial Customer Request				R						AR	C	
6	2.4.2 Select and Mobilize ITS Consulting Team				C						AR	I	
7	2.4.3 Consult with Customer				R						A	C	
8	2.4.4 Develop Problem/Opportunity Statement				R						AR	C	
9	2.5. Define High-Level Requirements												
10	2.5.1 Confirm Purpose, Goals and Benefits				R						A	R	
11	2.5.2 Define Development Objectives and Deliverables				R						A	R	
12	2.5.3 Define Development Approach and Methodology				R						A	C	
13	2.5.4 Prepare High Level Requirements Document	C			R						A	C	
14	2.6. Develop Candidate Solution Options												
15	2.6.1. Evaluate Existing IT Inventory		C		C						A	C	
16	2.6.2. Scan for External Solution Options		C		C						A	C	
17	2.6.3. Document Candidate Solution Options		C		C						A	C	
18	2.6.4. Review Solution Options with Sponsors									C	A	C	
19	2.7. Conduct Preliminary Solution Scope												
20	2.7.1. Estimate Development Resources Required	R	C		R	C					A		
21	2.7.2. Develop Rough Order of Magnitude (ROM) Development Budget	R			R						A		
22	2.7.3. Develop Cost/Benefit Analysis	R			R						A	C	
23	2.7.4. Create Preliminary Solution Scope Document	R			R						A		
24	2.7.5. Confirm Preliminary Solution Scope with Sponsors									C	A		

Organisatorisch

3x

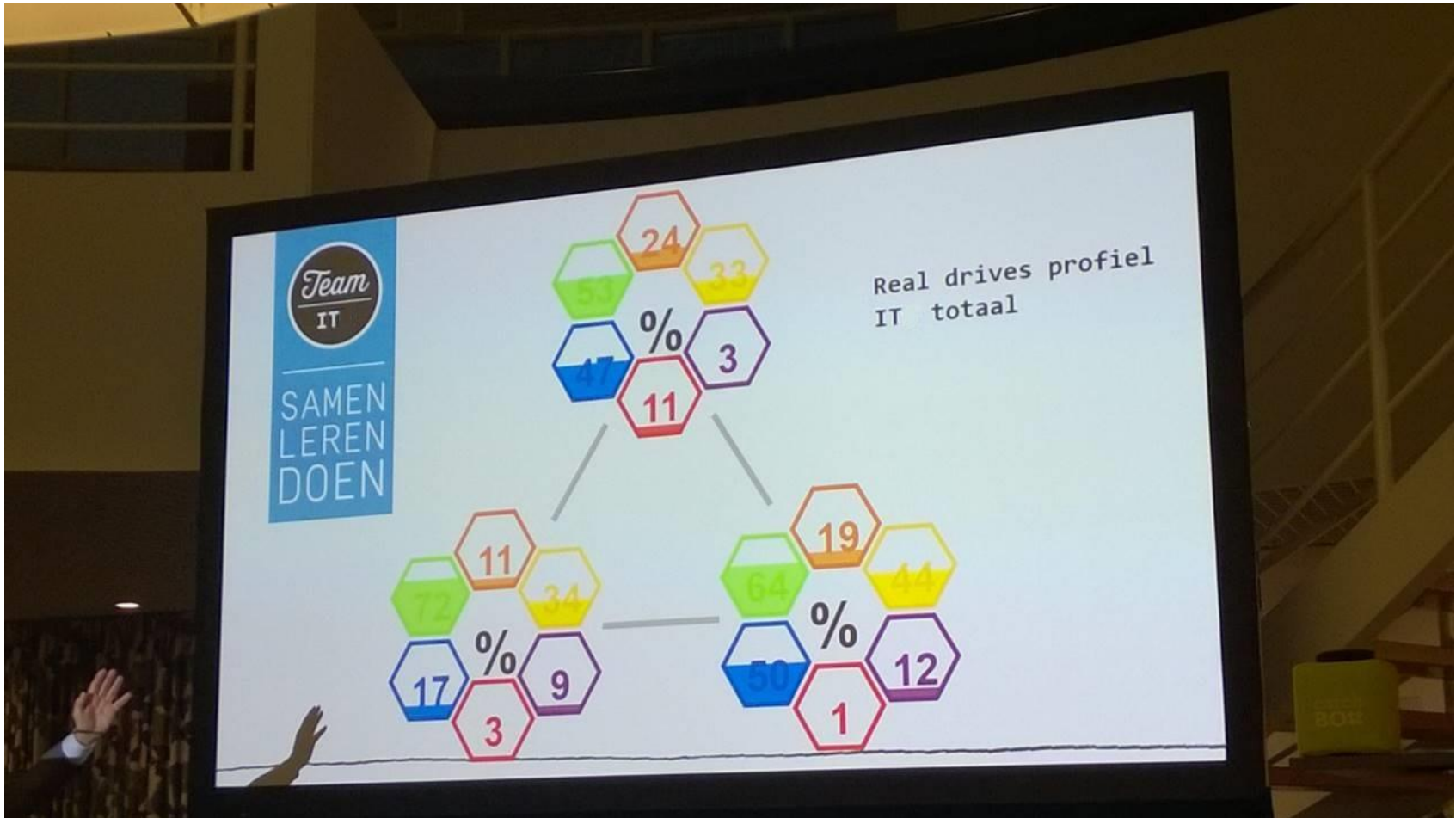
- ChangeManager
- ReleaseManager
- Procescoordinator
 - ServiceDesk
 - Infra
- DienstManager
- IncidentManager
- ProjectManagement

- =====

- Geen Stackbeheer
- Geen Ketenbeheer
- Geen root cause analysis



Samenwerking binnen Klant



Voorkeur / omgeving / gedrag

Db 11.2.0.2 => 11.2.0.3

- Multimedia opties , invalid objects, dba_registry invalid – solved but no upgrade
- DR\$ Oracle Text indexen
- Fragmentatie > 99,9 %, wrong language
- Database maintenance jobs
- Voorgeschiedenis onbekend preprod => prod

Index Fragmentation and Optimization When Using OracleTextSearch or DATABASE.FULLTEXT (Doc ID 1087777.1)

OTAP



OTA – P'



PA

Uitwijk P => P' (geen A')
OTA vol
Loadtest project A naast P

Compute node splitsing

- Klant P DB RAC node 1,2,3,4=> node 2,3
- SI A DB RAC node 1,2,3,4 => node 1,4
- RCU Oracle connectie met instantie1 faalt
- Switch over, dg broker
- upgrade
- Down gebracht niet uit clusterconfiguratie

ASM storage cells

- FMW: alert stuck threads
- IO >500 ms=1/2 s (extern onderzoek)
- # storage cells 3 => 5
(2 x ivm uitwijk)

https://docs.oracle.com/cd/E23943_01/core.1111/e10105/

Using the movement scripts

- Database
- OID * prod accounts – host name in DB
- Weblogic Cluster Oracle VM
- Webcenter Portal
- Webcenter Content
- Oracle Secure Enterprise Search
- Oracle Text

Niet gelukt binnen OTAP

Beheer complicaties

standaardisatie issues:

- X database – schema prefix $X \quad X \in \{ O, T, A, P \}$
- P SQL scripts, A, T, O SQL scripts
- Versie verschil Configuratie Tool $\Rightarrow O T A P$
verschillend ingericht (nb scrum valkuil)
- poortnummer(P)=poortnummer(A) +1000 enz

X Middleware – archive suffix $X \quad X \in \{ O, T, A, P \}$
app_ P .ear, app_ A .ear

- ACL op P , firewall loadbalancer op P
- External storage documenten
- Backup en Uitwijk

Loadtest in Productie

- Batch 3 dagen (SI)
- Housing Hosting (HaHP)
- Beheer Intranet (Klant)

- DatabaseServer:
 - DB1 A batch – rman backup
 - DB2 P Metedata Repository
 - DB3 P EBS
 - enz

Oracle Enterprise Manager 1,2,3+upg

- Geen stackbeheer maar onderdeel beheer
- Geen OVM, Storage plugins
- Diagnostic & tuning packs licentie



System Integrator
OEM1 out of the box
Alleen project

HaHP lab128
OEM2 toad
statspack +
custom

Klant
OEM3 – HA Oem 4
onvoldoende
rechten,

Resource manager Exadata

- Load niet statisch maar dynamisch
- Loadtest gedrag onbekend
- Niet gelukt
- Loadbalancer dropt pakketten
- Shared storage documenten filestore

NFS NETAPP WAFL- beheer metrocluster

- Oracle application test suite :selecte groep queries, niet random

nfsiostats

- Agent mag niet

```
0 7 * * * /usr/sbin/nfsiostat 60 1440 /nfs-shares/logs/intranet-a &>  
/nfs/logs-archive/nfsiostat/nfsiostat_logs_`hostname -s`_`date +%Y-  
\%m-\%d-\%H:\%M:\%S`.out
```

- Cloud Computing storage,
Verzekeringsmij <=> Klant
- df -h | ONTAP netapp Metrocluster,
hardwarefailure, uitwijk:
=> corruptie op filesystem (conform SLA)

patching

- Exadata patch
- Database patches tbv Oracle Secure Enterprise Search (11.2.0.3, 11.2.0.4 enz)
- FMW patching
- OS Patching

Eigen Oracle Home (SI, EBS, ...) ipv shared

Out of place patching

• konklusies

- Stackbeheer
- ketenbeheer
- Techniek \Leftrightarrow contract afspraken
- Managementprogramma's in kubusorganisatie op de juiste as
 - O, T in Exadata niet per se nodig
 - Metadata Repository op Exadata weinig meerwaarde
- dure storage exadata versus goedkope externe storage (documenten in DB) : beheercomplicaties mbt backup en uitwijk
 - Root cause analysis noodzakelijk
 - Verschillende partijen eigen oracle homes (middleware, E-business, Siebel, project)
 - Geen OEM repository op de Exadata voor monitoring Exadata
 - Uitwijk op P gelijk aan uitwijk op A
- Scheiding P en OTA realiseren door bijv firewall ipv foute standaards
- Security, monitoring, HA, Identity Management, Data op A conform P

Hoe het moet

- Inzetten voor applicaties die er profijt van hebben;
- - Geen uitzonderingen op de best practice.
- Inzetten door organisatie (onderdelen) die er profijt van hebben;
- - Pas organisatie aan om Exa te gebruiken
- - Pas procedures aan om Exa te gebruiken
- - Pas contracten aan om Exa te gebruiken
- Do as Oracle does: Product Development IT
± 15% systemen Exa;
- ± 85% standardized OVM non-HA.