

Open Source

- an option for the public sector?

Open Source Days 2010

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CV

- 2008 – Centrit ApS, director
- 1993 – 2008 Danish Medicines Agency,
Department of Pharmacoeconomics, director
- 1991 – 1993 LO, consultant
- 1985 – 1991 Ministry of Industry, head of section
- 1982 – 1985 Directory for Labour, Head of section

- 1982 Mag. Scient. Soc., University of Copenhagen

- a case

Situation

- Failure in operation of centralized IT-systems
- Need for resources to improve operation of new, coming systems

Solution

- Reduce cost (license-fee) by changing a closed source databasesystem to an open source databasesystem

The Systems

Characteristics

- Online, mission critical systems
- # of transactions > 1 mio/day (9:00-18:00)
- SLA: 95% < 2 sec.
- SLA: Uptime 7/24/365 99,5 %

Central systems involved

- Reimbursement of medicine (CTR), 2000
- Medicinal Profile (PEM), 2004
- Prescription Service, 2006
- Shared Medicine Record (Fælles Medicinkort), 2007-

Local systems involved

- Pharmacies, general physicians, hospitals, portals for citizens access, municipal homecare, vendors, ...

Major problems

Problems 2006-2008

- Upgrading of Operating System went wrong
- Upgrading of dB-system went wrong
- Lack of skilled people
- Operational failure
- Businessmodels kept old technology alive (messagebased communication)
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Architecture / Environment (as is)

- One physical, shared platform for all solutions
 - Performance
 - Economy – sharing of resources
- Web-based, XML, SOA
- Standard solutions on private or closed networks
- HW: IBM – mirrored HW
- SW: UNIX/AIX, Oracle ...

Overall assessment of platform: OK

Strategy

Strengthen the customers (our) position

Increase competition between vendors

Measure vendors performance and use results for
decisionmaking

to

- improve quality of operation (uptime)
- reduce cost
- create economic possibilities for new health it solutions

(If you want to improve, you have to change.

If you want to change, you have to measure)

SPOF/MTBF

Single-Point-of-Failure / Mean-Time-Between-Failures

Basic elements

- Software – didn't seem to be the problem
- Hardware – 3-4years
- Operation vendor – 1-2 months
- Operator infrastructure – 9-12 months

Vendors = SPOF!

Strategy for reducing/eliminating SPOF (to be)

- Separate solutions, vendor, operation, location
 - 3 pieces of HW (2 mirrored, 1 for upgrade)
 - Located on 2+ different sites
 - The same solution should be operated by 2+ different vendors
 - (Testing facilities, pre-prod etc benefits from this strategy. Virtual servers)

Note: 2010 - the strategy is not persecuted (yet).

Test and risk analysis

Change from Oracle to MySql

- Moving and test of application
- Risk was assessed

Conclusion of risk analysis

- If everything went wrong, we would be back at the starting point

Open Source Platform for Shared Medicine Record (as is) from 2008

- Sun, Linux, Solaris, MySql, Jva, Tomcat, T4, Spring, Google Web Toolkit ...

Economy involved

- Oracle: Licence: 1 mio. DKr. per piece of HW – first year
- Oracle: Licence fee 0,25 mio. DKr. per piece of HW for subsequent years
- MySql: Service 0,05 mio. DKr./year – for support

5 year: Cost for dB-systems

	3 x HW closed software	3 x HW open software
1. year	3 mio. Dkr.	0,15 mio. Dkr.
2. - 5. year	3 mio. Dkr.	0,60 mio. Dkr.
Total	6 mio. Dkr.	0,75 mio. DKr.

Strength/weakness of open source

Weakness

- Desktop solutions still behind
- Specific end-user solutions: Lack of software to different branches

Strength

- Operating System
- Web-based solutions, LAMP, SOA
- Capacity to develop

Q:

Which type of solutions does the public sector need, demand and develop these years? Desktop-solutions or web-based digital solutions?

A:

It seems, that the strong side of open source equals the needs of the public sector for web-based, digital solutions!

A customers overall impression

	Closed source	Open source
Development (code)	\$\$\$\$\$\$	\$\$\$\$\$\$
Project-management	\$\$\$\$\$	\$
Relationship	CONTRACT	Contract
Development	Waterfall, but ...	Agile, SCRUM, sprint ...
Dist. customer- developer	Long	Short
Typical organization	Large, "fat"	Small, "slim"
Development and operation	One package	Customer choose
Further development	Vendor-locked	Customer choose
Operation of 3. party SW	?	Yes
View on customer	Cash-cow	Basis for new projects
Risk in project	High-end	Low-end

Thank you
for your attention!