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Open Source Business Models in Practice:

- A Survey of Commercial Open Source Introduction

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Master Thesis 2005

Lund Institute of Technology



Master Thesis assignment:

- To investigate open source in general and in a business environment in particular.
 - Gains and Risks
 - Financial Aspects
 - Legal
 - Long-term Perspective



Methodology

- Business Survey based on interviews with employees from nine different companies using Open Source Software
- Interviewees involved in open source activities



Organisations in the Survey

Organisation	Founded in year	Number of employees	Revenues 2003
Scancoin	1966	400	644 MSEK
Axis Communications	1984	350	623 MSEK
Combitech Systems	1992	300	245 MSEK
IBM	1911	319 273	\$89.1 billion
Ericsson	1876	51 583	117 738 MSEK
Nohau	1981	30	60 MSEK
MontaVista	1999	180	-----
Teleca	1998	3 000	2 455 MSEK
Borland	1983	1 300	\$295 M

SCAN COIN



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- A Malmö-based company offering cash processing solutions
- Uses Open Source Software in coin sorting machines
- Wanted to limit own code base and introduce new work processes



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- Global provider of network video products and print servers, based in Lund
- Develops network cameras using software running on a Linux platform
- Started with Linux in servers to decrease costs
- Linux in products since year 2000



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- Participates in and contributes to open source development projects
- Launched the Eclipse project in 1999, released the code in 2002
- Offers services associated with Linux



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**Combitech
Systems**

- Part of the SAAB Group
- Develops Open Source Software for clients
- Initiated with a Master Thesis project
- Several development projects with open source

- Released the code for in-house developed programming language, Erlang in 1999
- Uses Eclipse to achieve a unified development environment
- Strategic member of Eclipse in 2004

Borland



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- Supports clients' development with different software tools
- Developed the very first IDE
- Competition from Eclipse
- Tools and environments for open source software development



Lessons Learned

- ✓ **Development**
- ✓ **Security & Quality**
- ✓ **Support**
- ✓ **Procurement**
- ✓ **Licences & Legal Issues**
- ✓ **Strategic & Organisational Aspects**



Development

Risks

- It takes a strong and competent advocate to introduce OSS
- Takes time to develop a new platform
- Takes time to integrate different OSS components
- OSS introduced as a technical challenge, for fun
- Staff may fear being deskilled

Gains

- Possibility to view and control the code
- Possibility to modify the code
- Knowledge exchange in the community
- Increased competence of own developers
- Developers get an “ego boost”
- Shorter development time



Security & Quality

Risks

- Code must be tested and verified even if it is not developed in-house

Gains

- Skilled and motivated developers in the community
- Good testing and feedback in community
- Bugs can be fixed immediately
- Resources for testing instead of developing
- Products get developed for many different environments and operating systems



Support

Risks

- Need more software knowledge than when buying proprietary products
- Need for a general view of software development
- Do not trust the community to solve all problems
- Support is not for free
- Professional support is not always available

Gains

- Freedom of choosing support from different providers



Procurement

Risks

- Lack of a specific software vendor
- Spending time on downloading and evaluating OSS
- Do not expect OSS to be for free
- Important to look at all costs, not just licences
- Strive to use standard components

Gains

- Get access to interesting technology
- No need for going through purchase department
- Services and software associated with OSS has in general a lower price



Licences & Legal Issues

Risks

- Give attention to GPL interfaces
- GPL may interfere with functionality
- Risk loosing customers not accepting OSS
- Risk of patent infringement

Gains

- No licence cost



Strategic & Organisational Aspects

Risks

- Top management support for OSS is crucial
- Differ between commodities and core competences
- Difficult to evaluate if OSS is profitable
- Critical mass of participants for OSS project
- Need to incorporate components interesting to others, rather than to yourself

Gains

- Concentrate on core competence
- Can create goodwill
- Organisations cannot run large projects like Eclipse alone – cooperation is needed



Trends...

- Open source is here to stay!
- Software business will need to adapt
- Requires a different approach

Questions or comments?



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Thank You!



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