Improvement of Software Delivery Processes in the Telecommunications Industry

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About

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Background

Network operators’ relative investments over last 20 years (Accenture)
Background

Software production is time consuming, expensive and brings the most value and functionalities to the current network elements.

As a result, network suppliers want to sell hardware, software and services as separate products.

Operators still want to see network suppliers as hardware vendors and are reluctant to pay for software separately.
Scope

The red ellipse illustrates the scope of the thesis
Research Problem

The main research problem:
- How to productize the network element software by changing the software delivery process?

This question can be further divided into the following sub-questions:
- How do the current software delivery processes function?
- What similarities, differences and challenges are in the current processes?
- How can the current processes be reorganized to productize the software?
- What kinds of advantages and challenges there are in the new reorganized processes?
Research Methods

- Literature studies
  - books, academic documents,

- Interviews
  - initial interviews, target interviews,

- Observation
  - process, entry meetings, closing meeting etc..
Structure of the Research

Describes the current software delivery processes

Examines the target processes

Purpose the new reorganized processes

Examines the purposed processes
New Reorganized processes

- **Software delivery process**
  - Delivers a new software into new nodes

- **Feature delivery process**
  - Activates features in the existing nodes

- **Software maintenance process**
  - Provides maintenance services to the existing nodes
Advantages

- Filling the strategy
- Simplified communication
- Risks reduction
- Cost reduction for customer
- Maintenance cost reduction for the case company
- Automated update system
- Reduction of parallel processes
- Other affections
Challenges

- The biggest fear of the customers is the loss of average revenue per user
- Reliability
- Technological challenges
- Change resistance
Conclusion

- Three new processes were developed
- They support the new strategy of the case company.
  - Selling components of the software separately.
  - By establishing different delivery processes for software and features this is fulfilled.
  - Serves the goal of software productization.
Future Research

- More specific measurement tools
  - To gather numerical statistics of the new reorganized processes

- The same process model could be expanded to other product lines
  - Company wide studies of broader changes of delivery processes to better fulfill the strategy of the case company

- Studies on the economical impact of the changes
  - Marketing strategies
  - Pricing of the new separate products
  - Economical effect on suppliers and customers

- Benchmarking the software delivery processes with other companies