Leveraging Architecture

Service Engineering as a Next Challenge

Wil Janssen
CLOSER 2011, May 9th 2011.

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manager networked enterprises

Networked business

Service Innovation EU Expert Panel

Interacting World

TUe / University of Twente / Uni Oldenburg

Business process modelling

Initiator Service Innovation and ICT program

Originator of ArchiMate

E-business engineering

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Investing in ICT driven innovation together
Sharing risk, cost and knowledge
Leading to impact for people, economy and society

Novay networked innovation

Innovators in NL say…

Market survey NewCom Research & Consultancy 2009 obn behalf of Novay

Novay corporate profile and clients

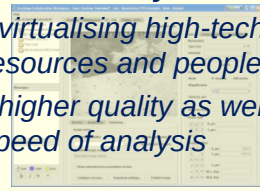
- Turnover 7 million euros
- 50 business partners, from IBM to Vodafone
- 10 knowledge partners, from TU Delft to Institut für Rundfunktechnik (IRT) in Germany
- 50 researchers and engineers, from ICT to psychology
- More than 40 projects per year

In the previous century…

- Business process re-engineering in the late eighties
  - Starting as a hype (Hammer and others)
  - Quickly moved to the down slope of the hype cycle
- Business process re-engineering in the nineties
  - Well-accepted, well-understood, reasonably well supported
  - From business process redesign to business process re-engineering
- E-commerce / e-business in the nineties
  - Starting as a hype
  - Disillusions with the internet bubble in 2000
- Architecture as a panacea or bureaucracy?

Four illustrating cases

Collaboratory



- *virtualising high-tech resources and people*
- *higher quality as well as speed of analysis*

Voogd & Voogd

- *insurance intermediary exploiting its position*
- *green-field IT*
- *full-service provider to other intermediaries*

Philips Direct Life!

- *personal coach*
- *uses activity monitor*
- *technology plus service*

Open Health Hub

- *cloud health data service*
- *open supplier to insures*
- *social or commercial?*

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Essential components…

- Customer service levels are important
- Process focus
- ICT as an crucial component
- Performance and effectiveness

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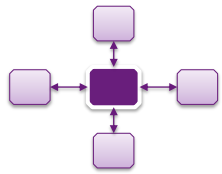
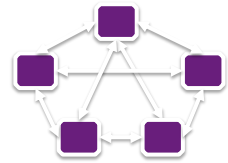
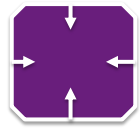
Service engineering specific…

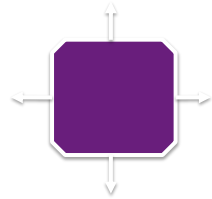
- Enterprise or network focus





- Introvert or extravert attitude





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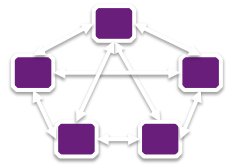
Service engineering specific…

- Who *is* the customer / where does *control* reside ?



- What relationships to consider?
  - Customer / provider
  - Partner
  - Competitor
  - Enabler

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Service engineering vs. business process engineering

Service engineering

- Network is the starting point
- Who *is* the customer?
- Many stakeholders and limited joint interests
- Many different relationships
- Synchronising product and processes throughout chain
- Opening internal functions
- ICT support interaction between enterprises
- Value chain application integration

Business process engineering

- Enterprise is starting point
- Clear customer
- Single stakeholder, single interest
- Stakeholder/customer relation
- New products in processes and systems of enterprise
- Hiding internal functions
- ICT aimed at ones own processes
- Enterprise Application Integration

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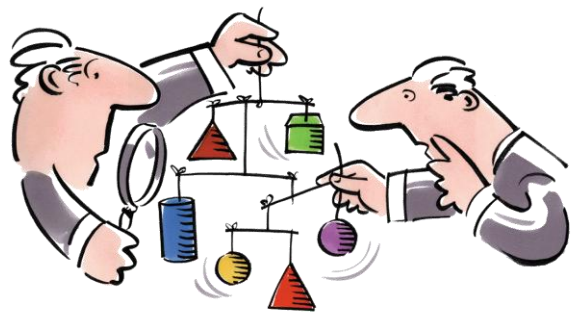
The value of Enterprise Architecture



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Context enterprise architecture

- Business and ICT become closer
- Ever higher demands on ICT: complexity, flexibility
- Many changes, rapid time-to-market required
- Management & control difficult
- Opening up of organisations
- *Architecture* as a tool
  - for communication
  - for governance
  - for innovation
  - for design

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  - for communication
  - for governance
  - for innovation
  - for design

But, not everybody agrees on this…

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Context enterprise architecture

...siness and ICT become closer

But, no...

Enterprise architecture = bureaucracy!

- for communication
- for governance
- for innovation
- for design

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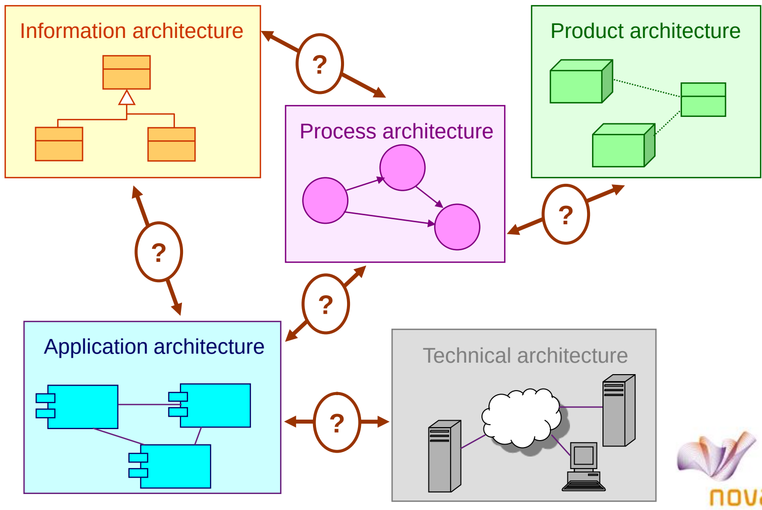
Enterprise Architecture: Holistic view



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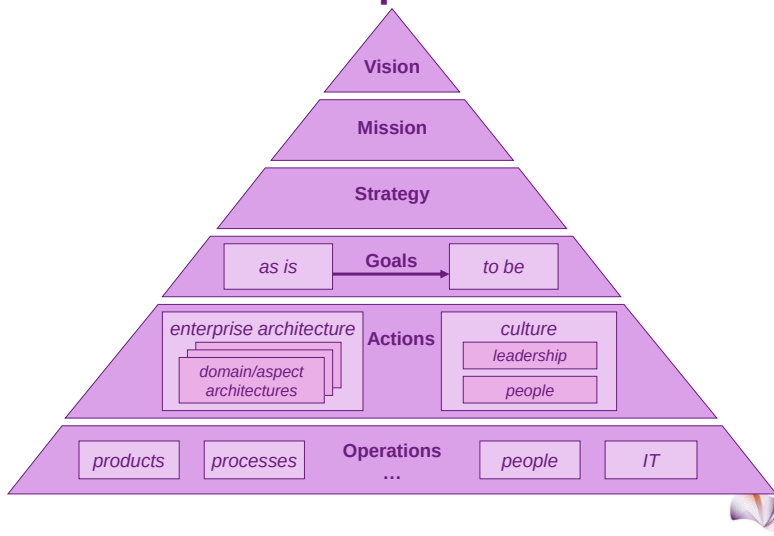
Role of Enterprise Architecture



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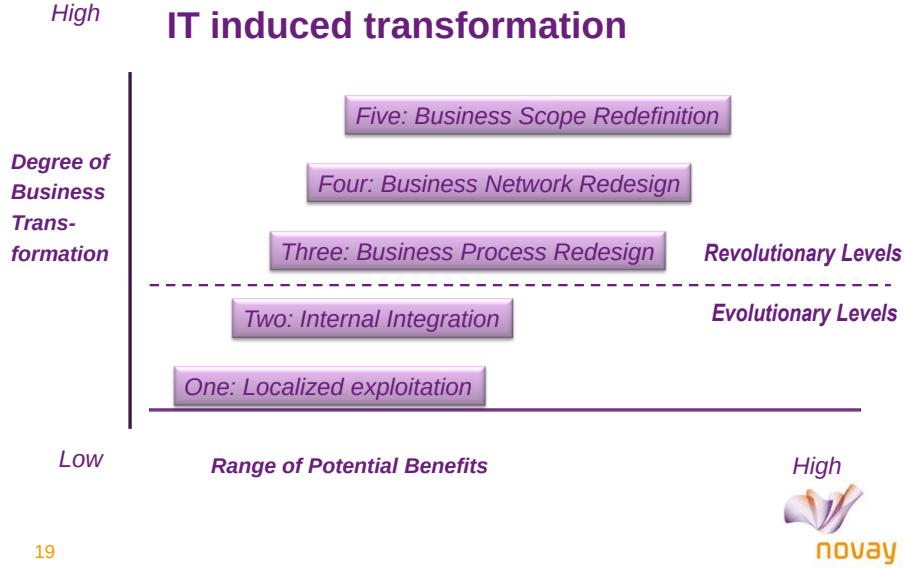
Model of Venkatraman: IT induced transformation



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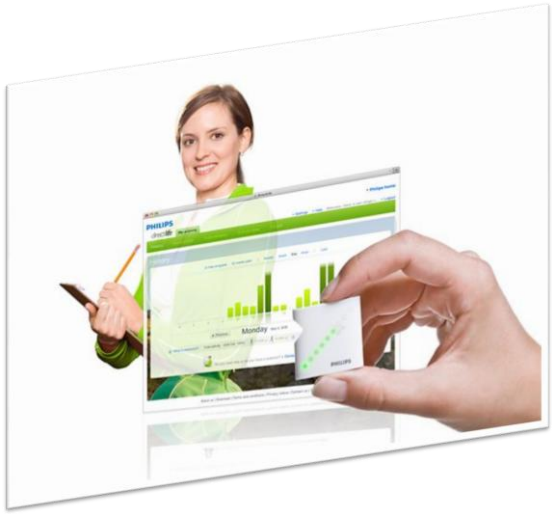

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Service Orientation

Service

- Unit of externally available functionality
- Offered via clear interfaces
- Relevant for the environment

Web services as a prominent technological example

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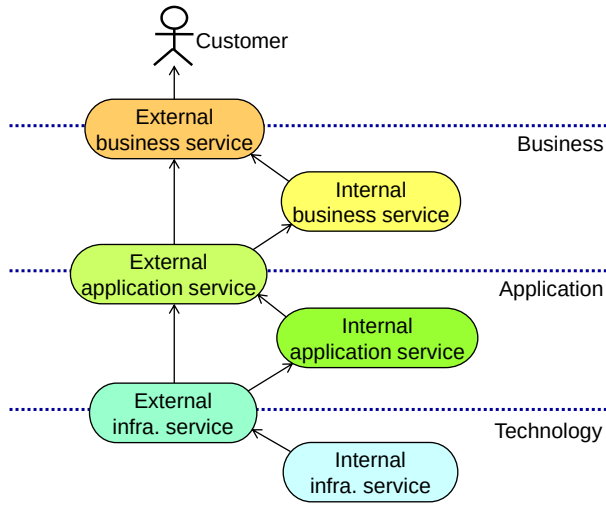
Services are key



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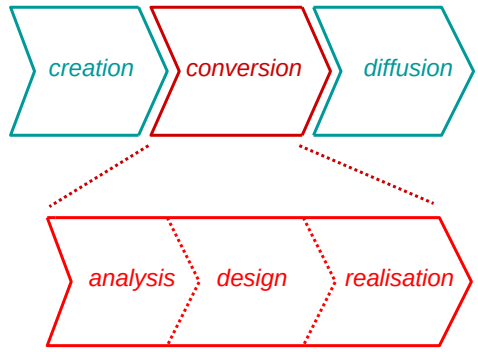
Service-innovation value chain



Hansen & Birkinshaw, HBR

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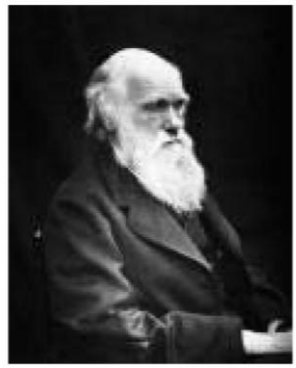
The problem in service innovation

- Fast changing customer demands. Staying in control is difficult, at the expense of enormous effort
- Service innovation requires a deep understanding of the current situation, but also the ability to challenge
- Few organisations have the ability to innovate next to operational excellence
- An ambidextrous organisation (O'Reilly) is crucial for survival in the long term – the need for service engineers



"It is not the strongest of the species that survive, nor the most intelligent, but the one that is most re-sponsive to change."

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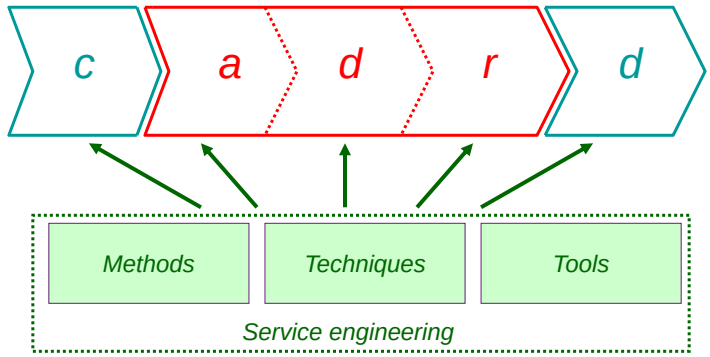
Scope of service engineering



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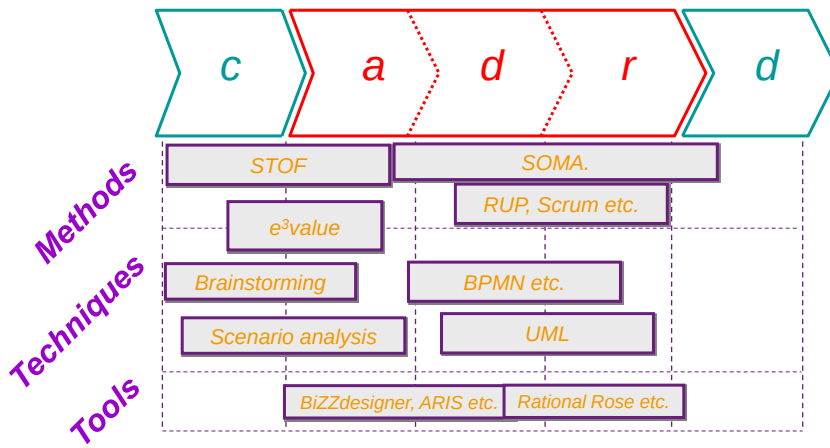
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d
Methods
Techniques
Tools
STOF
SOMA.
RUP, Scrum etc.
e3value
Brainstorming
BPMN etc.
Scenario analysis
UML
BiZZdesigner, ARIS etc.
Rational Rose etc.

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32 MTH's	Creatie	Analyse	Ontwerp	Realisatie	Diffusie
STOF	4	4			
Survey	4	4			
Mockup	3	3	3		
E3Value	3	3			
Brainstormen	3				
Scenario-Analyse	2	2			
Conjoint-Analyse	1	1			
BC-Analyse	1				1
Exchange-design		4	4		
COPAFIJTH		4			
ArchiMate		3	3		
RSD		3	3		
Portfoliomgt.		3			3
Requirementsmgt.		3			
Agile		2	2	2	
BiZZdesigner		2	2		
DEMO/Pronto		2	2		
OOAD		2	2		
BPMN		1	1	1	
OTAP			3	3	3
BPEL			2	2	
Ontwerptooling			2	2	
RUP/UML			2	2	
Scrum			1	1	
eMaxx-suite				3	3
Databasetooling				2	
Programmeertooling				2	
Testen (Tmap)				2	
Best Practices Beheer					3
Prince2					3
Gripmanager					2
ITIL					1
Aantal MTH's	8	17	14	11	8
Percentage MTH's	25%	53%	44%	34%	25%

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	Creatie	Analyse	Ontwerp	Realisatie	Diffusie
Service	25%	63%	56%	41%	13%
Technologie	16%	44%	50%	44%	19%
Organisatie	19%	50%	28%	6%	19%
Financiën	16%	25%	3%		9%

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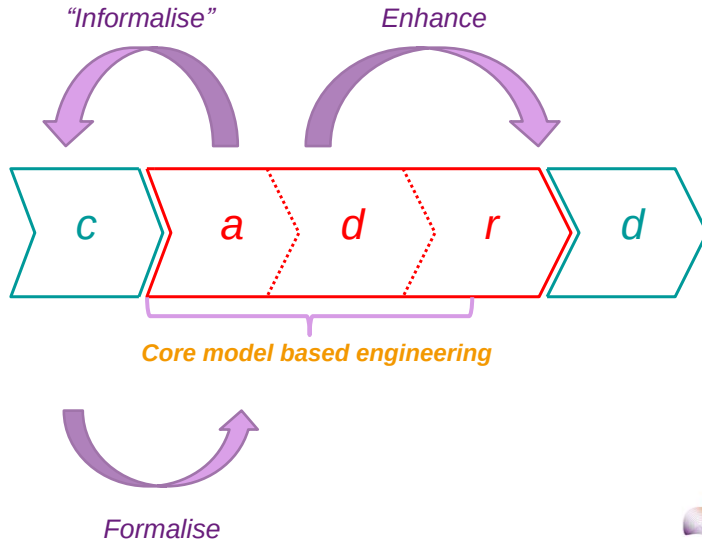
"Informalise"
Enhance
c
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Core model based engineering
Formalise

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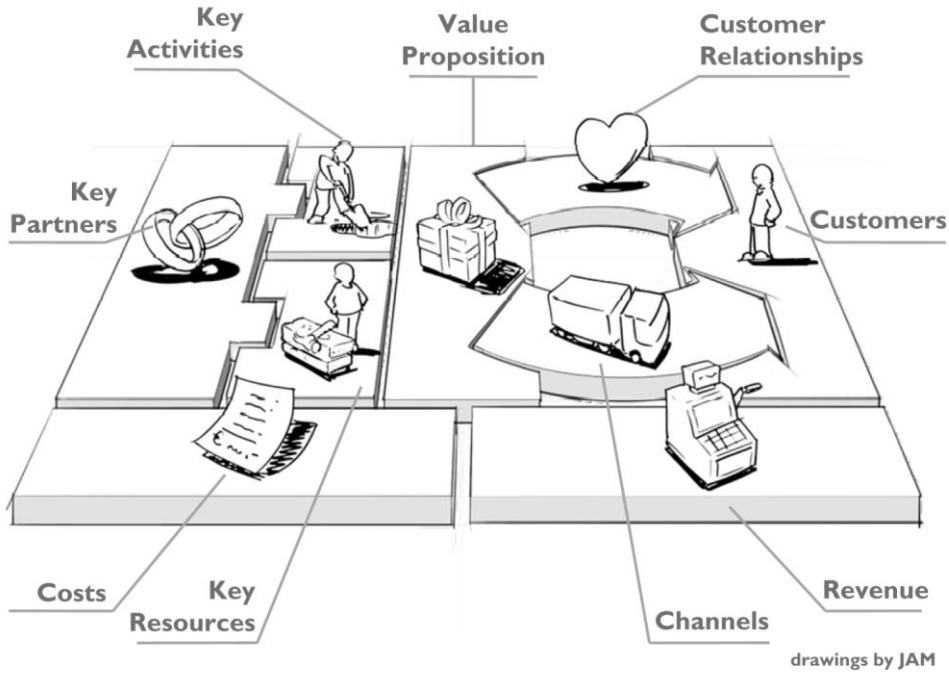
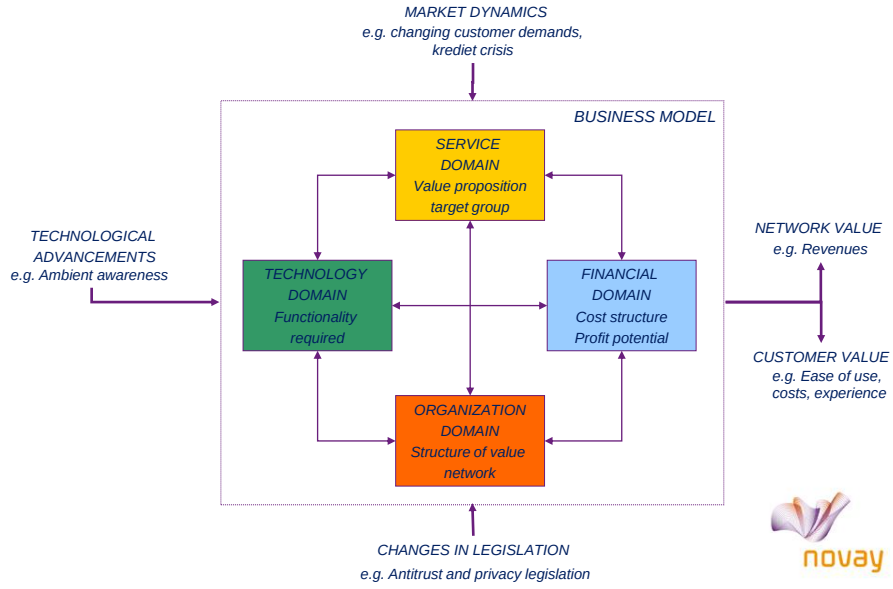
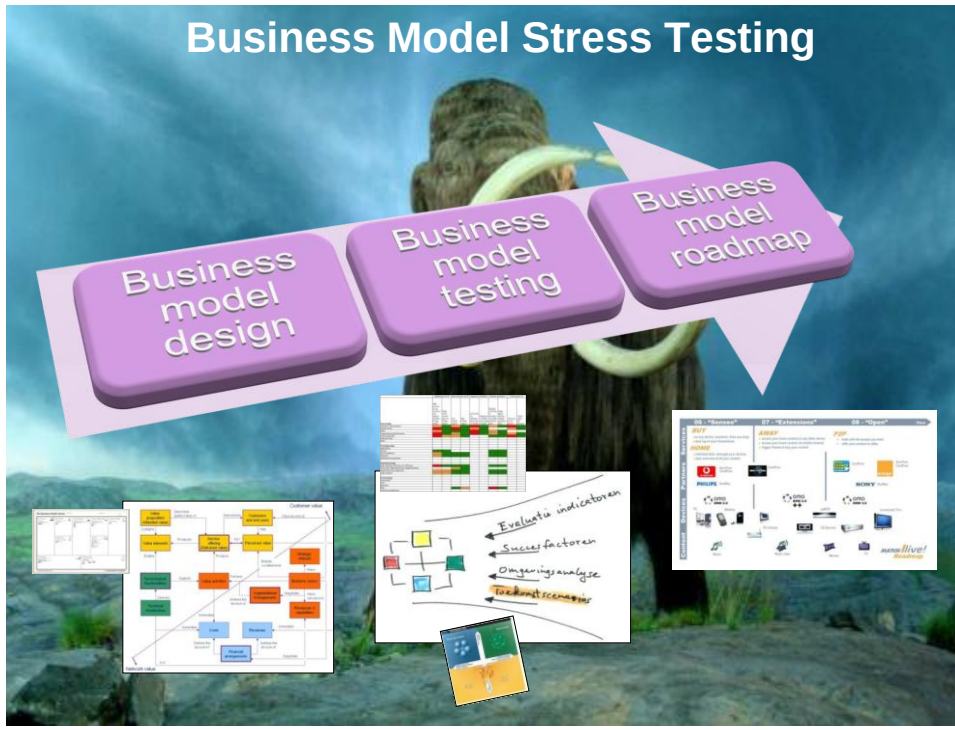
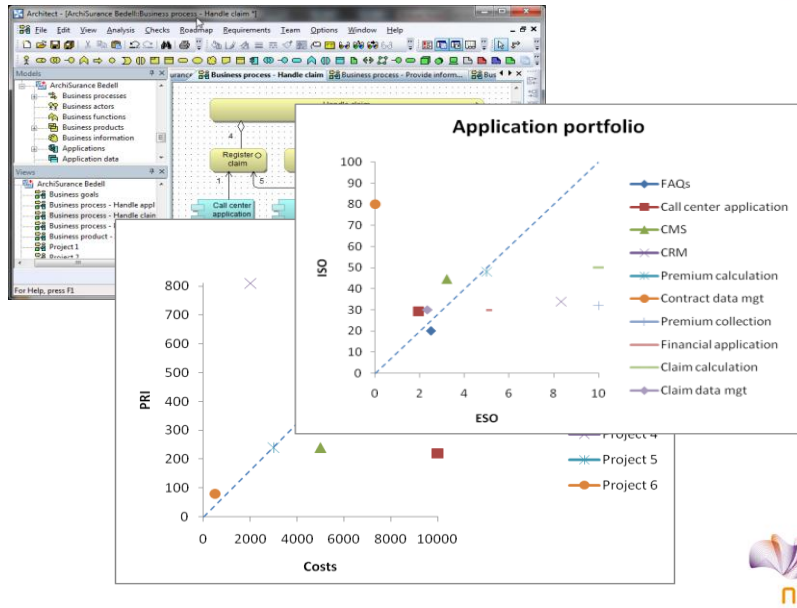

Key Activities
Value Proposition
Customer Relationships
Key Partners
Customers
Costs
Key Resources
Channels
Revenue
drawings by JAM

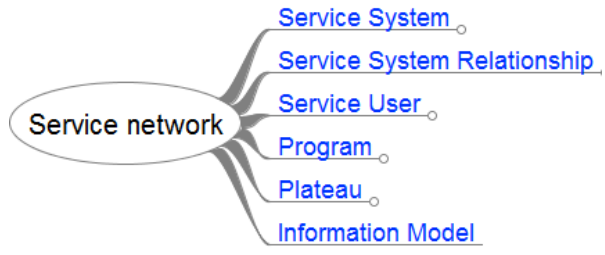
STOF Business model framework





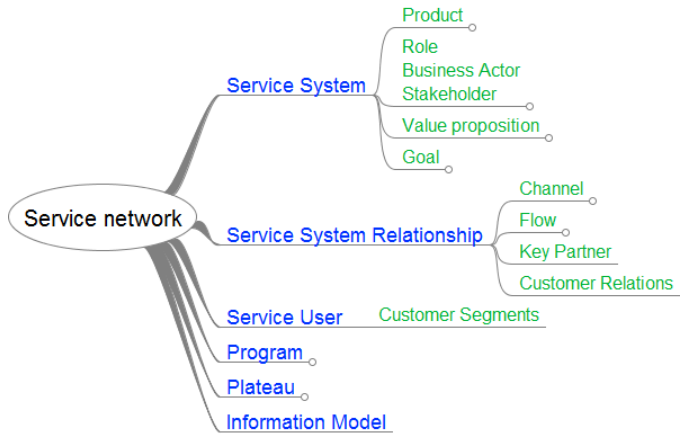


A networked enterprise model



Building upon
ArchiMate, STOF, Business Model Generation,
TOGAF, ArchiValue, GigaPort

A networked enterprise model



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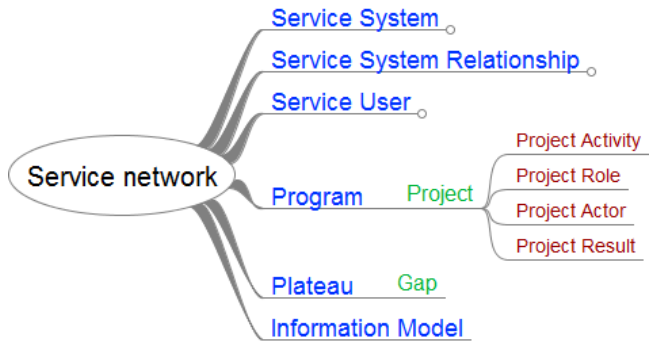

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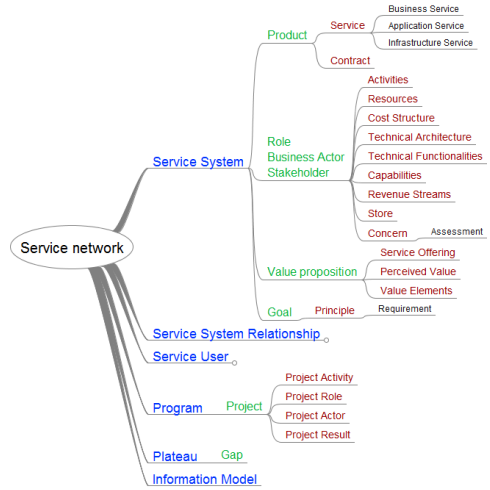
A networked enterprise model



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Service engineers: manager, engineer, consultant

- … have the responsibility to make, scale up or improve service systems, or parts thereof
- … use methods, techniques and tools to design, analyse and build for change
- … to add value by aligning viewpoints, design interests and possibly conflicting demands in the system

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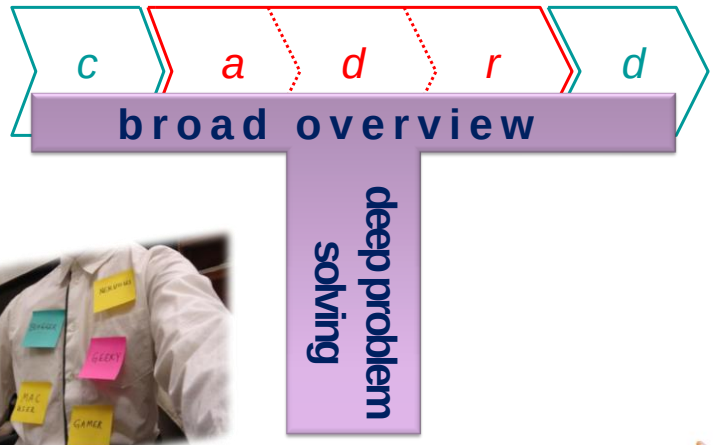
The T-shaped professional



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Consequences for service engineers

- Create the ability to have an overall view, without loosing contact with details
  - Enterprise architecture creates stable basis for flexibility
  - “Internet beyond OSI”
- Design systems, not components
  - Do not copy system engineering / software development
  - Not only manage, but design and construct
- Multidisciplinarity as a way of thinking as well as a way of working
  - T-shaped professionals
  - Link tools, models and methods
  - Design & culture in contact with technology

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Service engineers – Disciplined collaborators with service system viewpoint

Novay – networked innovation

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