Toward an Understanding of the Service-Based Command System

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SWEDISH ARMED FORCES
JOINT FORCES COMMAND

Overview

- **Command work**
- **Services**
- **Methods**
- **Theory for methods and services**
- **Service design suggestions**

Service Drivers

- **The service view is a perspective, a social construction and a trend in business**

- **Marketing, branding, competition**

- **What's in it for us?**

- **IT for rationalization, do more with less**

- **Combine productivity, make resources available**
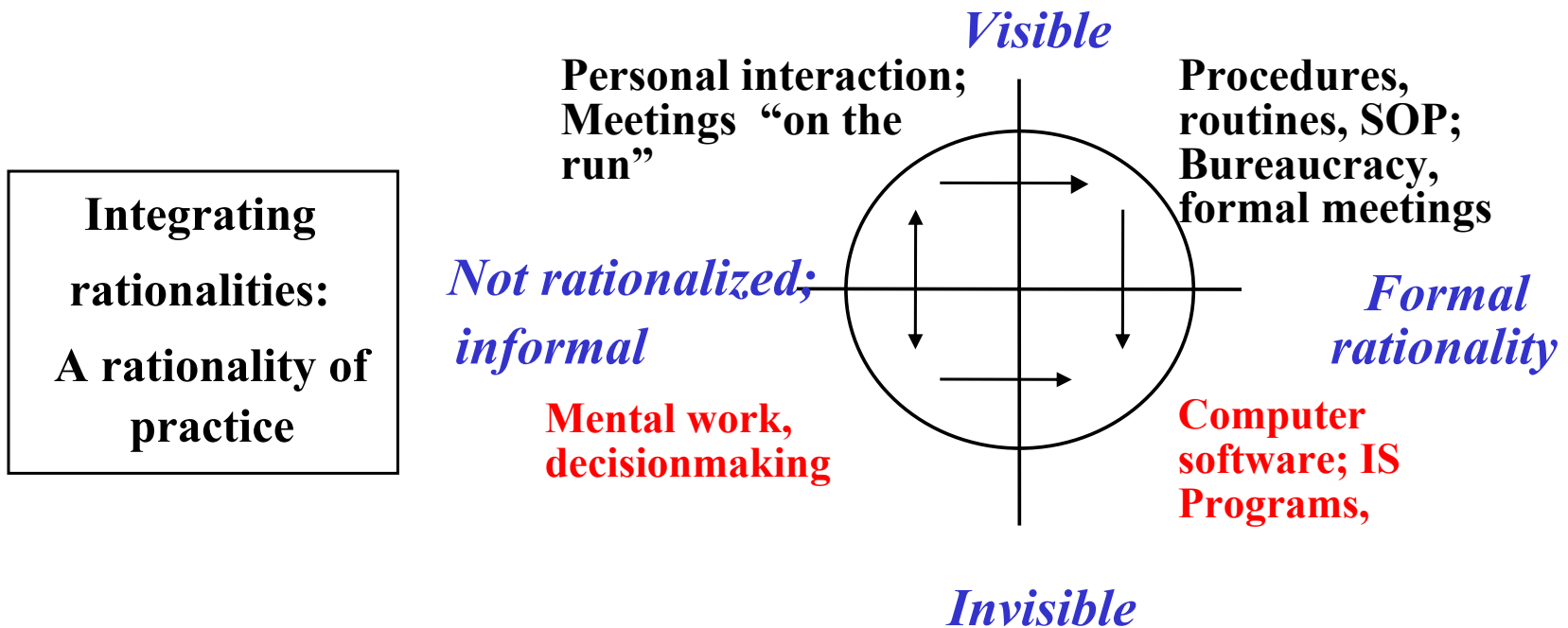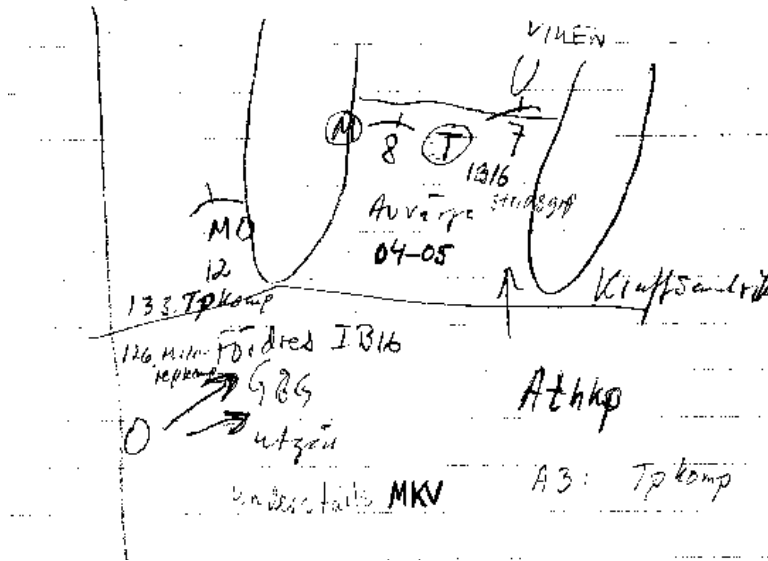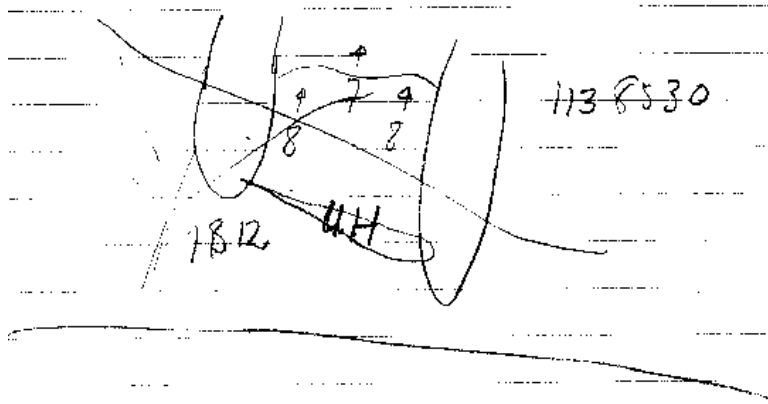
- *Not to have more but to do more*

What do we like, or have to do?

….considering service design for command work

IS Design for Social Value, Visibility of Work Procedures

Integrating rationalities:

A rationality of practice

Visible

Personal interaction; Meetings "on the run"

Procedures, routines, SOP; Bureaucracy, formal meetings

Not rationalized; informal

Formal rationality

Mental work, decisionmaking

Computer software; IS Programs,

Invisible
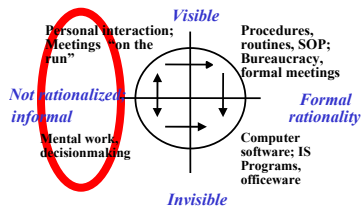
Tactical overview Personal sketch when only telephone worked

- From mental to external, logistics coordination by two logistics officers in a division HQ
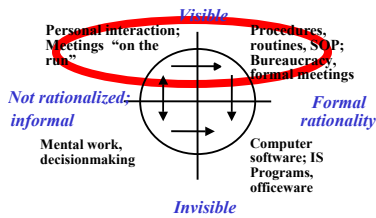
- Two phases, one week

- Simplified tactical symbols and terrain features

Adaptive formal representation in CP cell for simple comparisons

Visible

Personal interaction; Meetings "on the run"

Procedures, routines, SOP; Bureaucracy, formal meetings

Not rationalized; informal

Formal rationality

Mental work, decisionmaking

Computer software; IS Programs, officeware

Invisible

Total force, environment, chain of command

Capacity

Available resources for contingencies

1980 *Actualities' Table*, still inspiring in network

Actualities' Table (HQ)

Date			Force partition - orientation			Updated	
Sun	Rise						
	Set						
Dawn/dusk							
Darkness							Submit
Weather							
Wind							
Clouds	Clear	Clear					
	Mixed	Mixed					
	Grey	Grey					
Height							
Rain							Reinforcem.
Sight							
Temp.							
Misc.							Battle cap.
State of alertness		Alarm - rescue		Misc.(I.e. codewords)		Signals	
Transport							
Ops							
Arty							
AA							

Mission Related Services, the Vision

Vision: The service admits 'loose coupling' between service consumer and producer. Services exist in the Network.
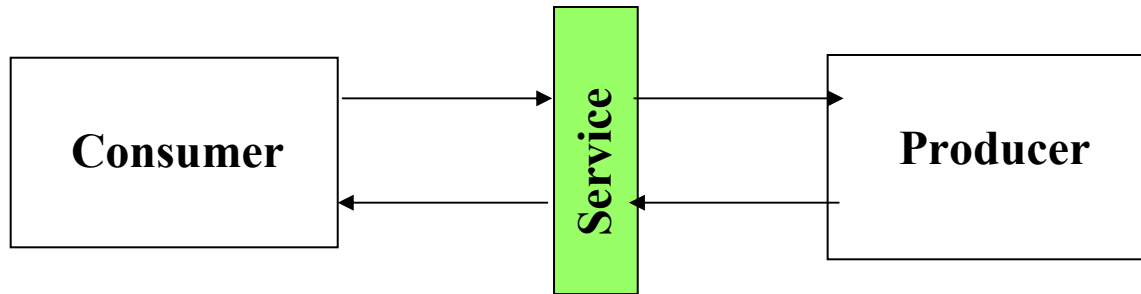
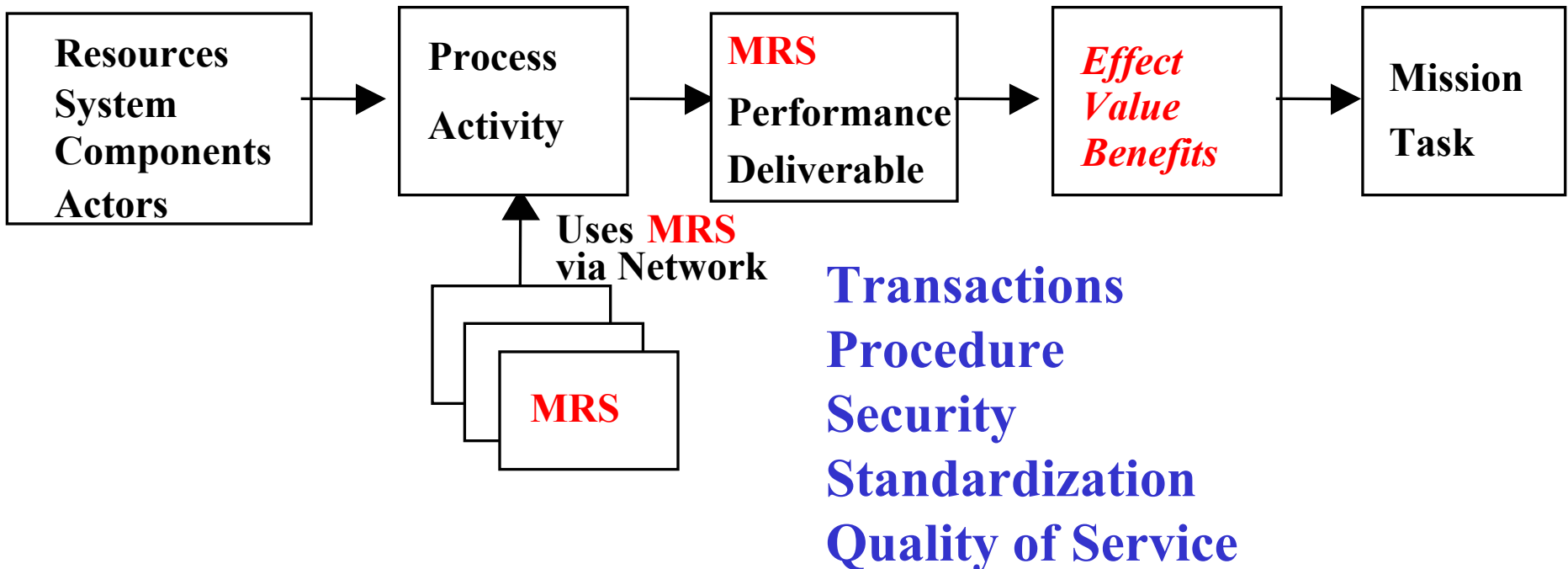**"The MRS is an interface between consumer and producer"**

The NBD-service implies:

• **Technical network for communication and delivery of humans' products**

• **Pre-defined, use-case based capability and performance**

• **Adequate security, allocation of "right to use"**

• **What about social network - social value, and trust?**

Business Process View and Services

| Resources System Components Actors | → | Process Activity | → | **MRS** Performance Deliverable | → | *Effect Value Benefits* | → | Mission Task |

Uses MRS via Network

↑

MRS

Transactions
Procedure
Security
Standardization
Quality of Service

Methods shall make actions *visible*

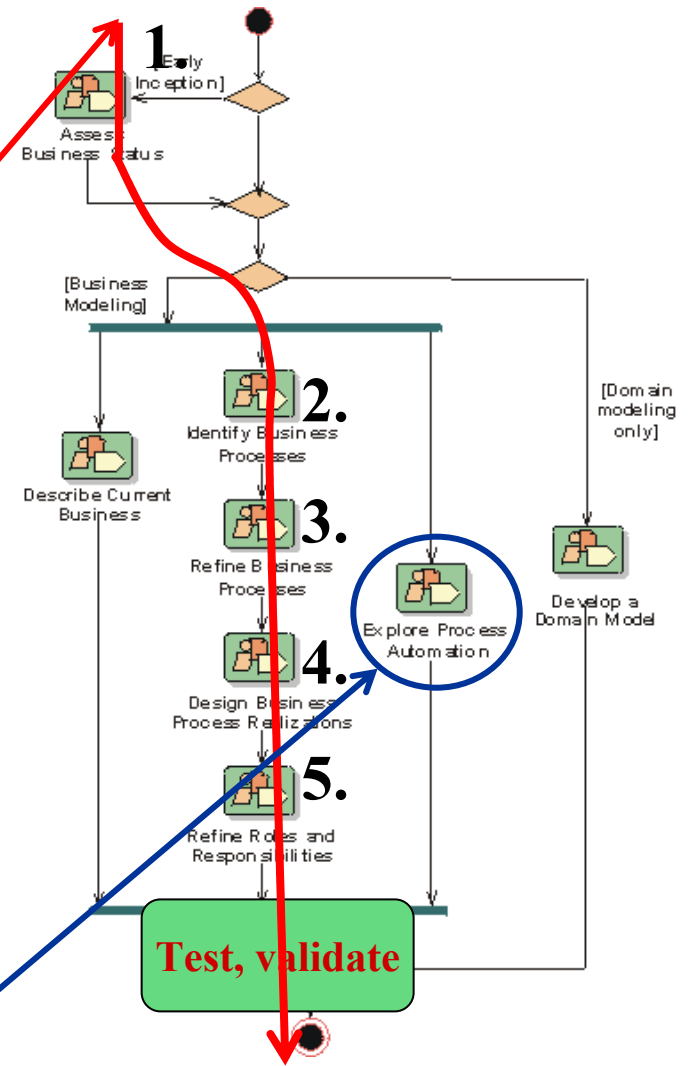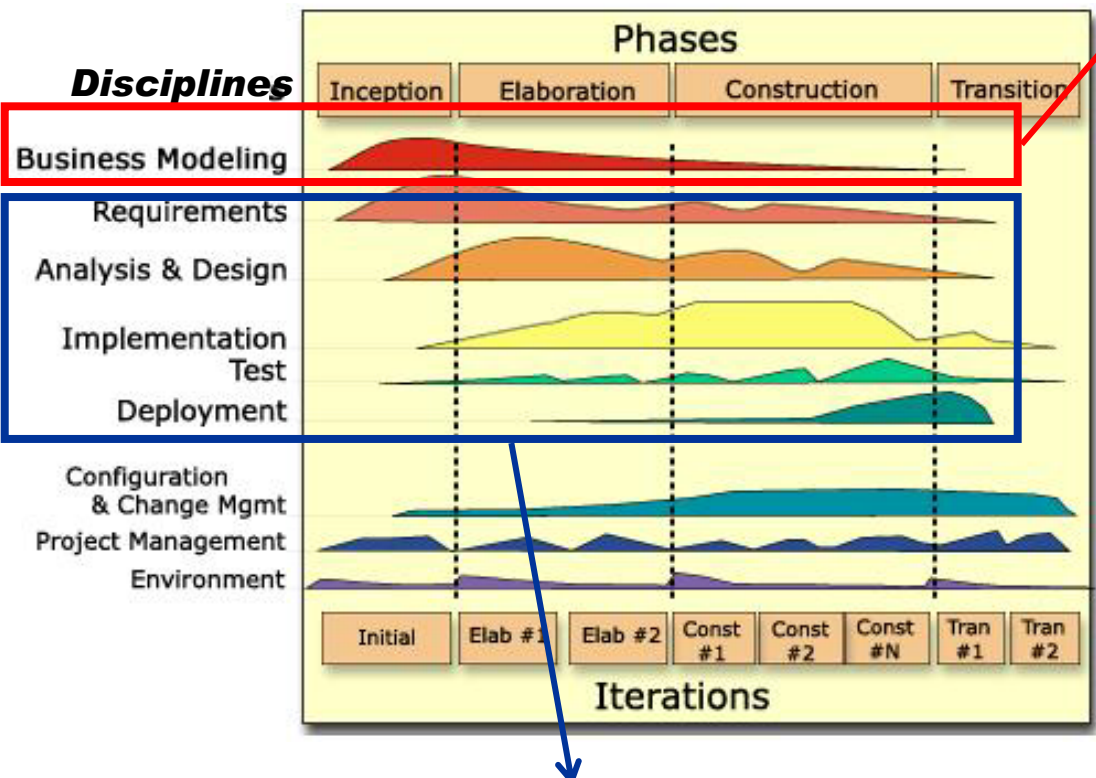## - Business systems development

- C2 methods & Services

Make new operations and actions visible, what is often taken for granted (re-create), and what occurs in machines

• Remember the business&service logic

Business modelling informs command method and service design with RUP ™

Phases

Disciplines	Inception	Elaboration	Construction	Transition
Business Modeling				
Requirements				
Analysis & Design				
Implementation				
Test				
Deployment				
Configuration & Change Mgmt				
Project Management				
Environment				

Initial	Elab #1	Elab #2	Const #1	Const #2	Const #N	Tran #1	Tran #2

Iterations

1. [Early Inception]

Assess Business Status

[Business Modeling]

2. Identify Business Processes

Describe Current Business

3. Refine Business Processes

Explore Process Automation

[Domain modeling only]

Develop a Domain Model

4. Design Business Process Realizations

5. Refine Roles and Responsibilities

Test, validate

Service and command method design is IS design

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Not just *data* or *information*, but purposeful IS messages

- **Was the *Information domain* called *documentation* up to 1950? And then *information retrieval*?**

- **"Information" as a metaphor for……?**

- ***Command is more than facts, as are services***
  - **The *forma* aspect, the physical, visible structure**
  - **The *informa* aspect: Interpretation and *meaning* depending on previous experience, motivation etc.**
 - **The *performa* aspect: Intention, commitments, implicit/explicit**

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Speech Act Theory and its offsprings

- **Different perspectives on information and communication,** *not only facts*

- *Speech act theory***; the transfer of cognitive information is only one communicative function among several.**
  - **All communication involves action**
  - **All action involves communication**

- *Information Systems Theory***, interpretation and** meaning **in messages, data is not information**

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MRS categories and attributes

- *Action orientation*, not "more information"
    - **Informing** someone: How to get it, what does it mean? Quality?
    - **Acting** services (includes inform)
    - **Structuring** (includes inform)
- **Providing informational support, purposeful action**
- **MRS, informing systems + 'business logic', transaction and interaction**

MRS

MCP

SOP

Resources

?
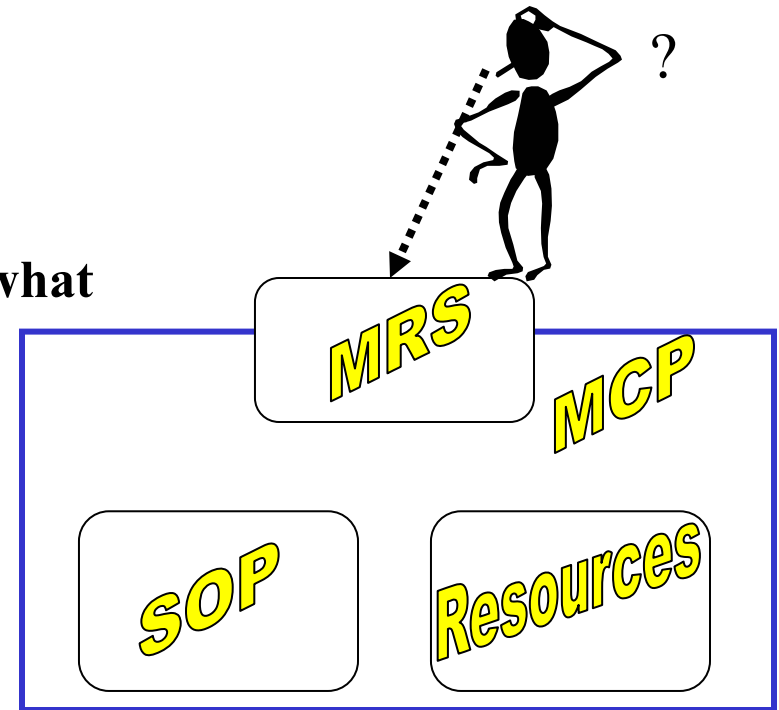
Interaction with/via services

Service type

"Visibility line"

Quality - purpose?
Interaction, methods
Transactions, products
Business process&logic

Informing

Acting

Structuring

Service as
information (about)

Service as action

Service as
Structure/-ing

Service as meta
information

Service as
information
about action
potential

Service as
information
about structure

A common service perspective

Quality guarantee
Standards
Please hang on…
In progress (music!)
Your queue number is…
Your account is...

"Service portal"

Service type

Quality - purpose?
Interaction, methods
Transaction
Business process &logic

"Visibility line"

Informing

Service as information (about)

Service as meta information

Trust
Relation
Accountability

Acting

Service as action

Service as information about action potential

Structuring

Service as structuring

Service as information about structure

"Production portal"

Information Systems Theory

- **People-Informing systems**
- **"Actability", not world-mirror or images**
  - **"perform actions and to permit, promote and facilitate users to perform their actions both through the systems and based on messages from the system, in some business context."**
- **the action enhancement is called *pragmatization of information systems*.**

Services for action

- **Informing and acting services are instantiations of informing systems**
- **Informing services make action potential explicit**
- **Both an IS and a service have a *dual action character*,**
  - **an instrument (tool) for users to perform action and**
  - **perform action independently of its users (but still according to its rules and program).**

Informing service attributes

- **Dynamically updating of**
  - **Precision (estimations)**
  - **Security issues**
  - **Quality assessment**
  - **Validity**
  - **Dependencies to other services**
  - **Service constraints**
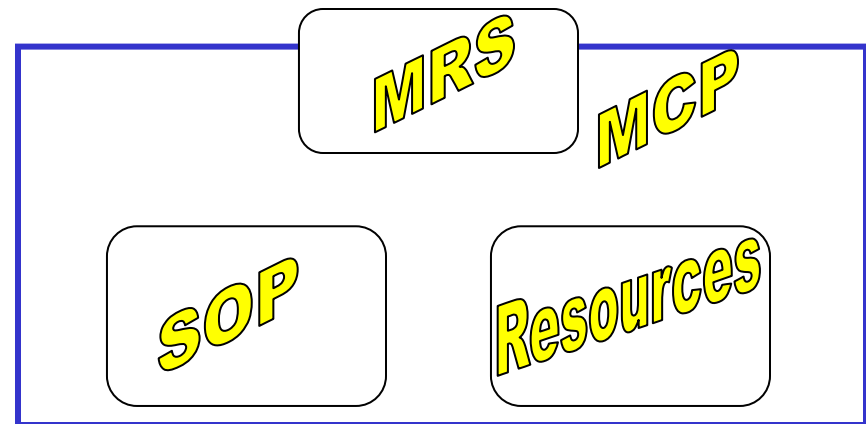 - **Availablity and applicability**

The Network Based Defence

What:
- **Flexibility & Adaptivity**
- **Economy & Efficiency**

How:
- **Theory**
- **Standardization**
- **Training**
- **Technology (CIT)**
- **Automation but** *visibility*
- **New mind-set**
- *Hard work*

Effect, benefits, purpose...

MRS MCP

SOP Resources

- **Mission Capability Package**
- **"Military *e*-business"**
- **Situated or situation-oriented activity systems (SitSysts)**
- **Effect management vs. resource management**