MANAGEMENT VERSUS SIGNALLING

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MANAGEMENT VERSUS SIGNALLING

INTRODUCTION
- TRADITIONAL VIEW
- THESIS

GENERAL DESIGN THEORY
- TOP-DOWN
- CYCLIC

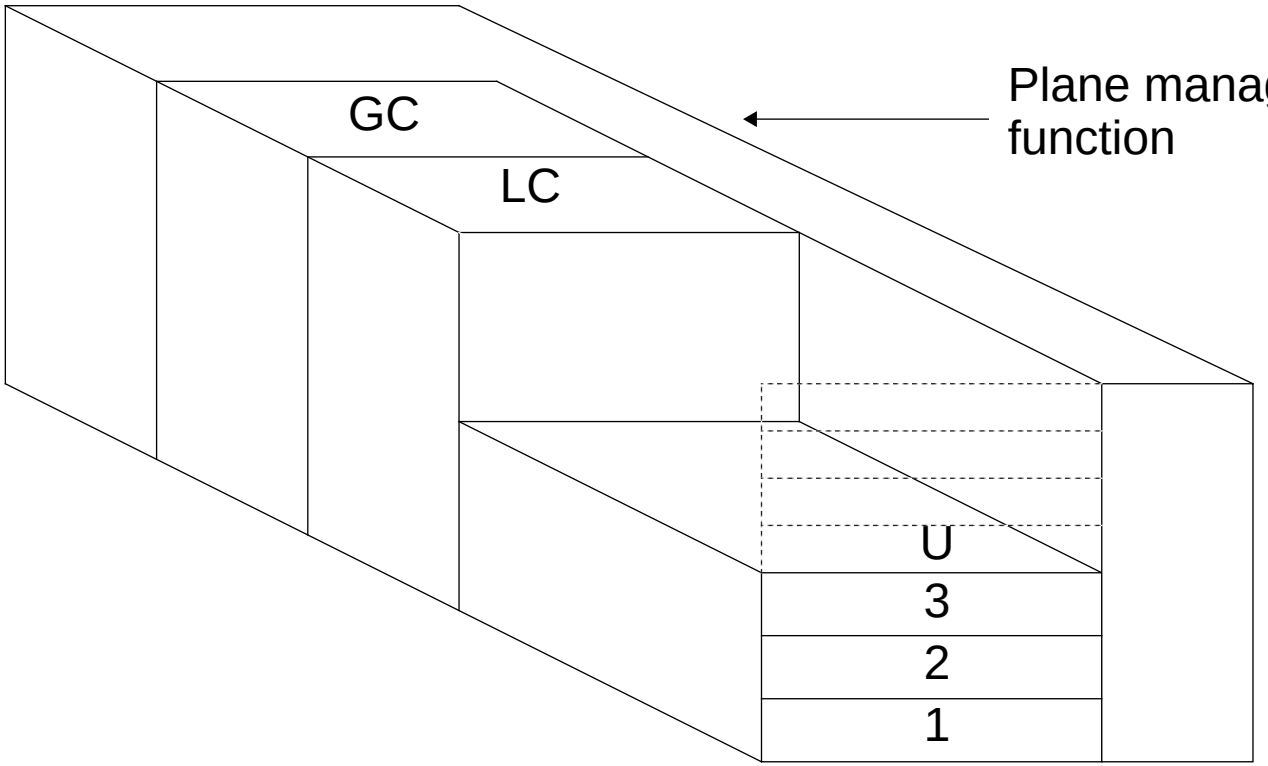
A CYCLIC DESIGN PROCESS

REDESIGN

META-MANAGEMENT

AN INTEGRATED ARCHITECTURE

INTRODUCTION



GC = Global Control plane
LC = Local Control plane
U = User plane

INTRODUCTION

THESIS:

THERE IS NO PRINCIPLE DIFFERENCE

BETWEEN SIGNALLING FUNCTIONS

AND MANAGEMENT FUNCTIONS

INTRODUCTION

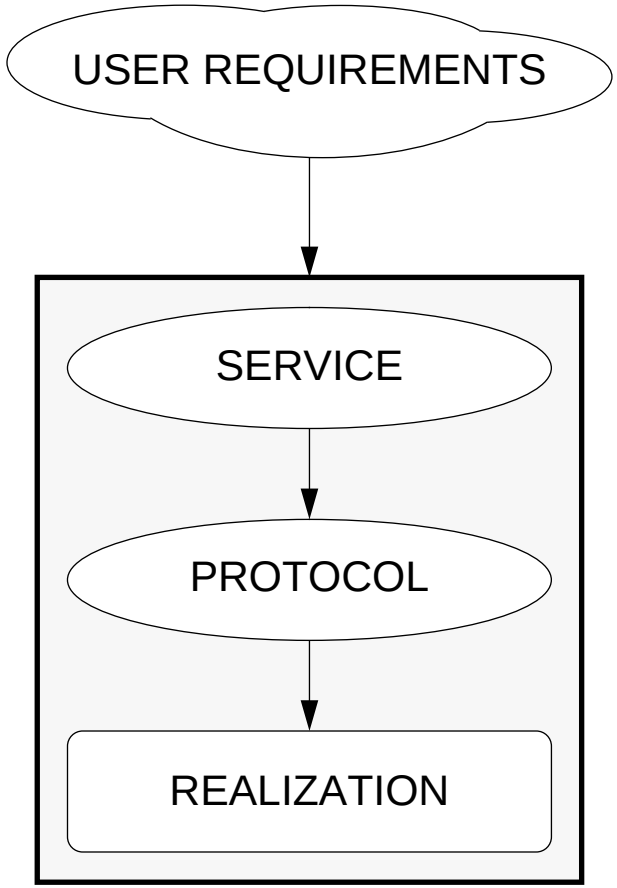
IMPLICATION 1:

IT SHOULD BE POSSIBLE TO USE
THE SAME DESIGN PARADIGM
FOR BOTH KIND OF FUNCTIONS

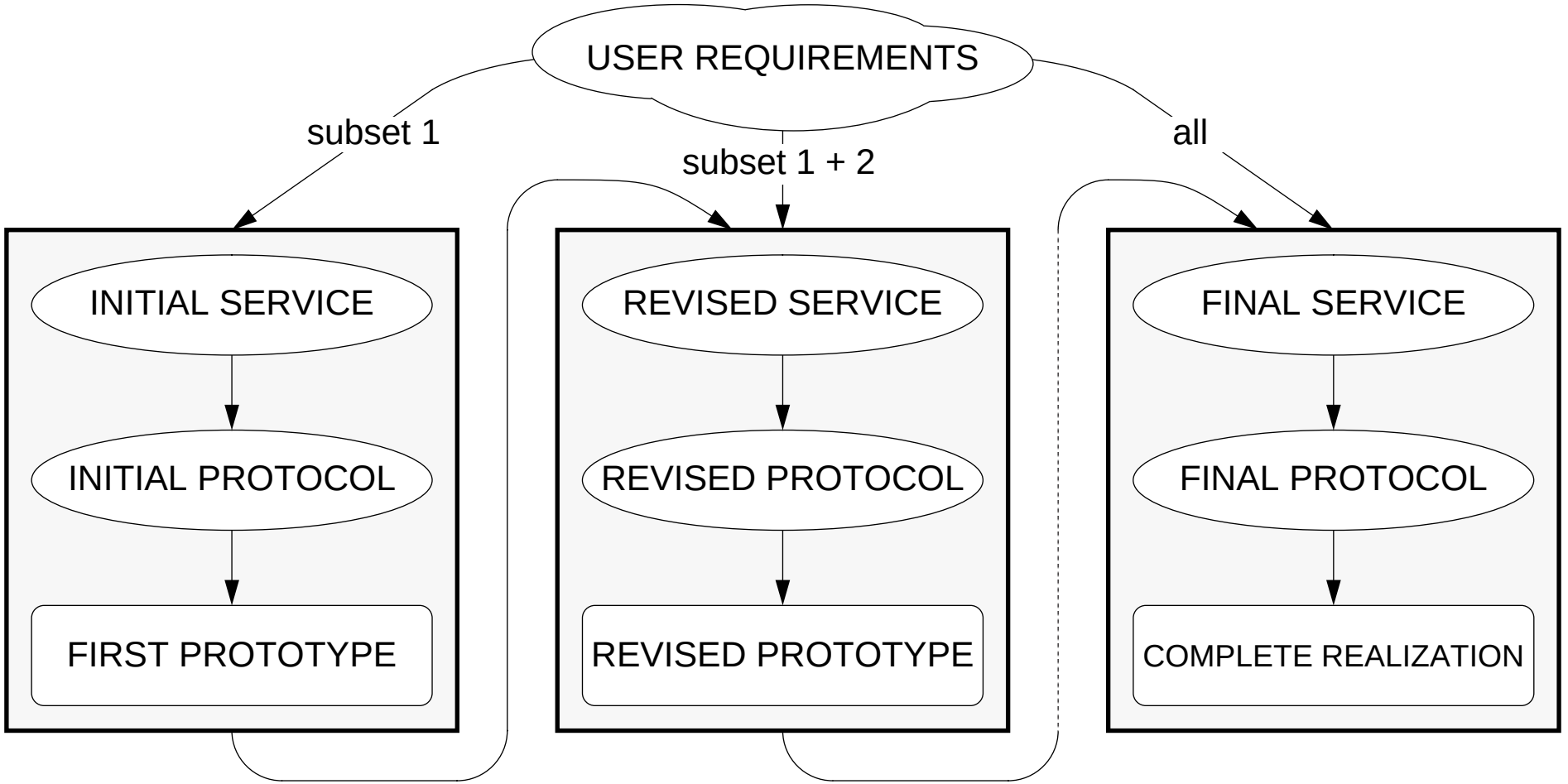
IMPLICATION 2:

IT SHOULD BE POSSIBLE TO MODEL
BOTH KIND OF FUNCTIONS
AS PART OF A SINGLE ARCHITECTURE

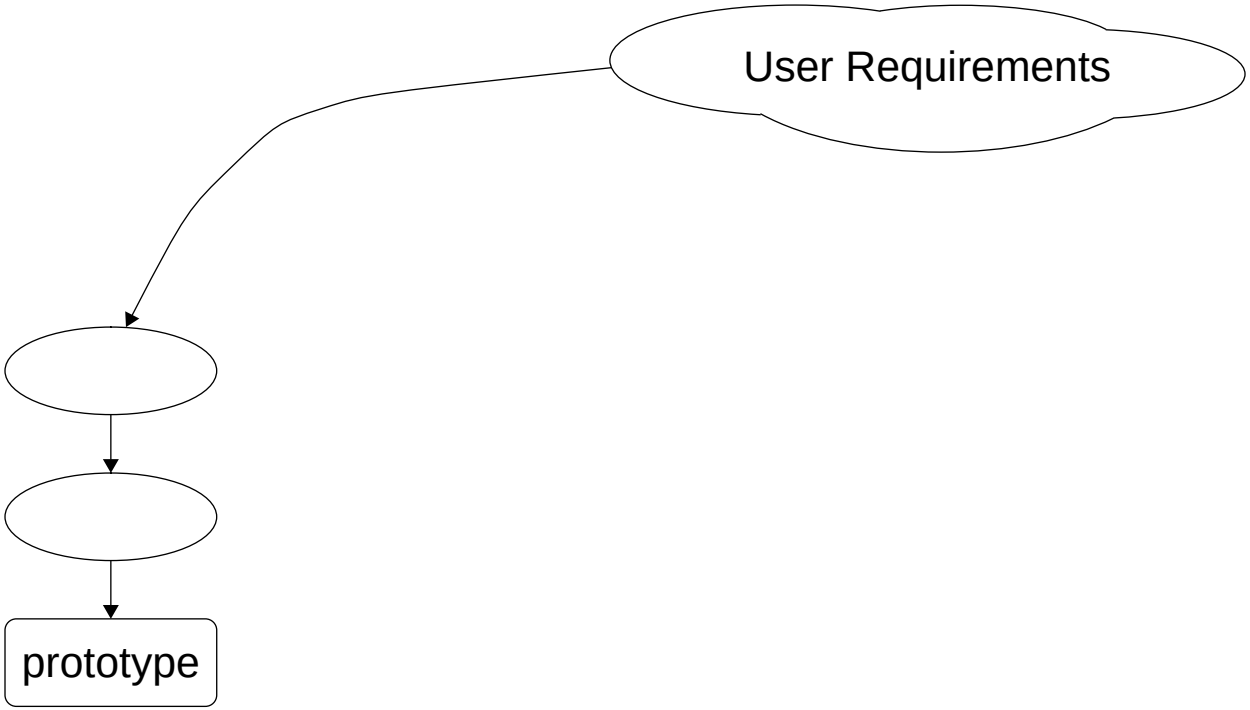
GENERAL DESIGN THEORY: TOP-DOWN



GENERAL DESIGN THEORY: CYCLIC



A CYCLIC DESIGN PROCESS



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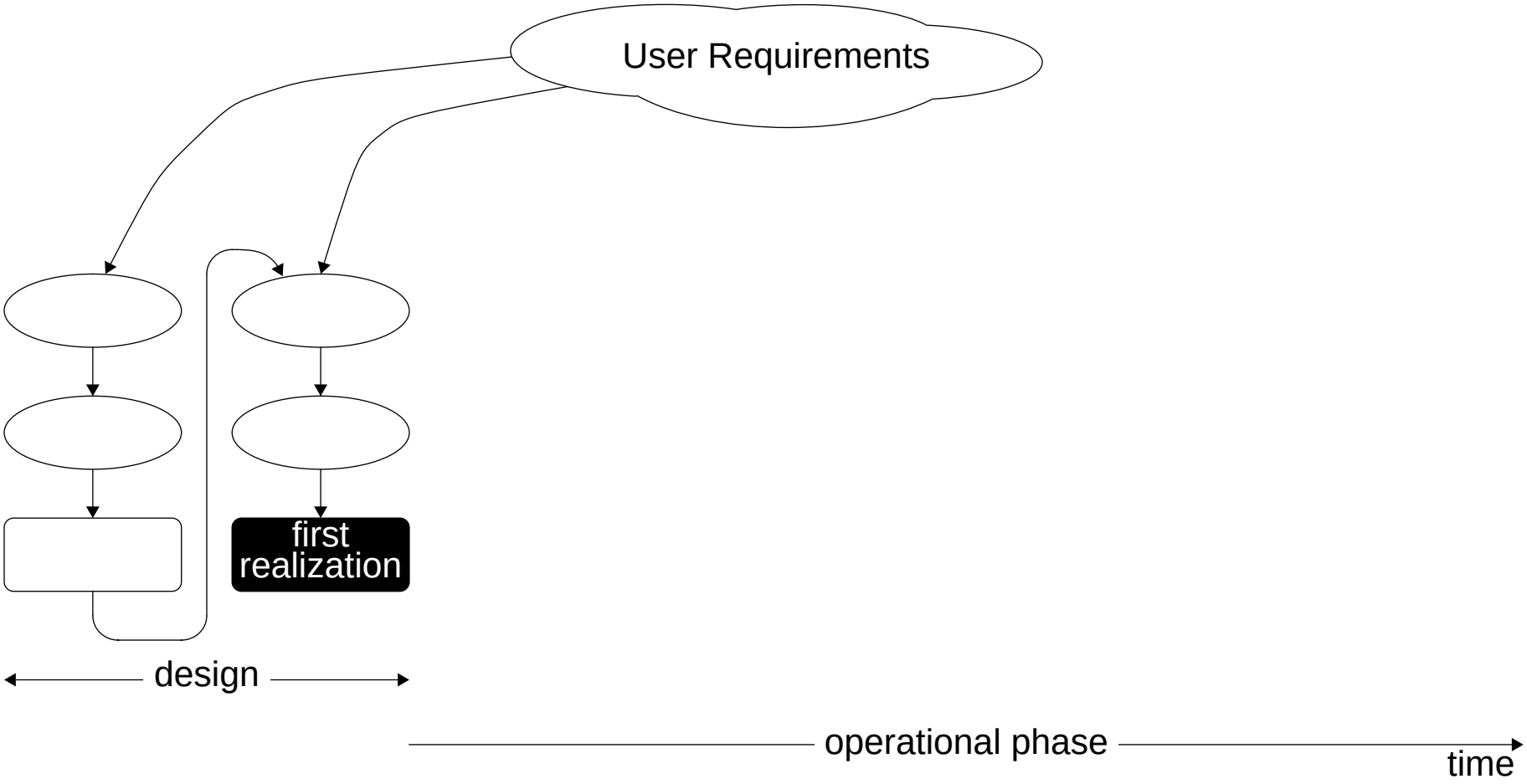

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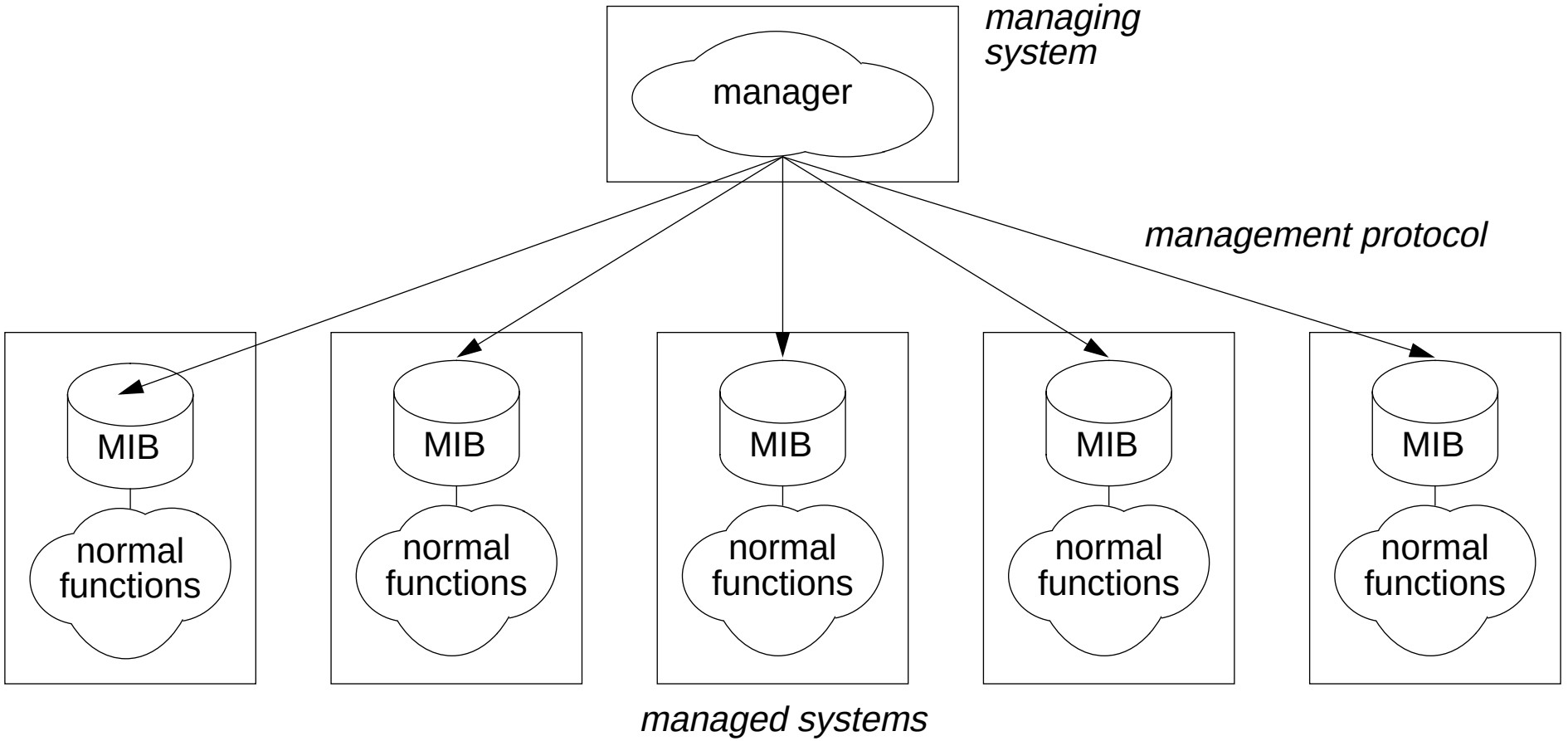
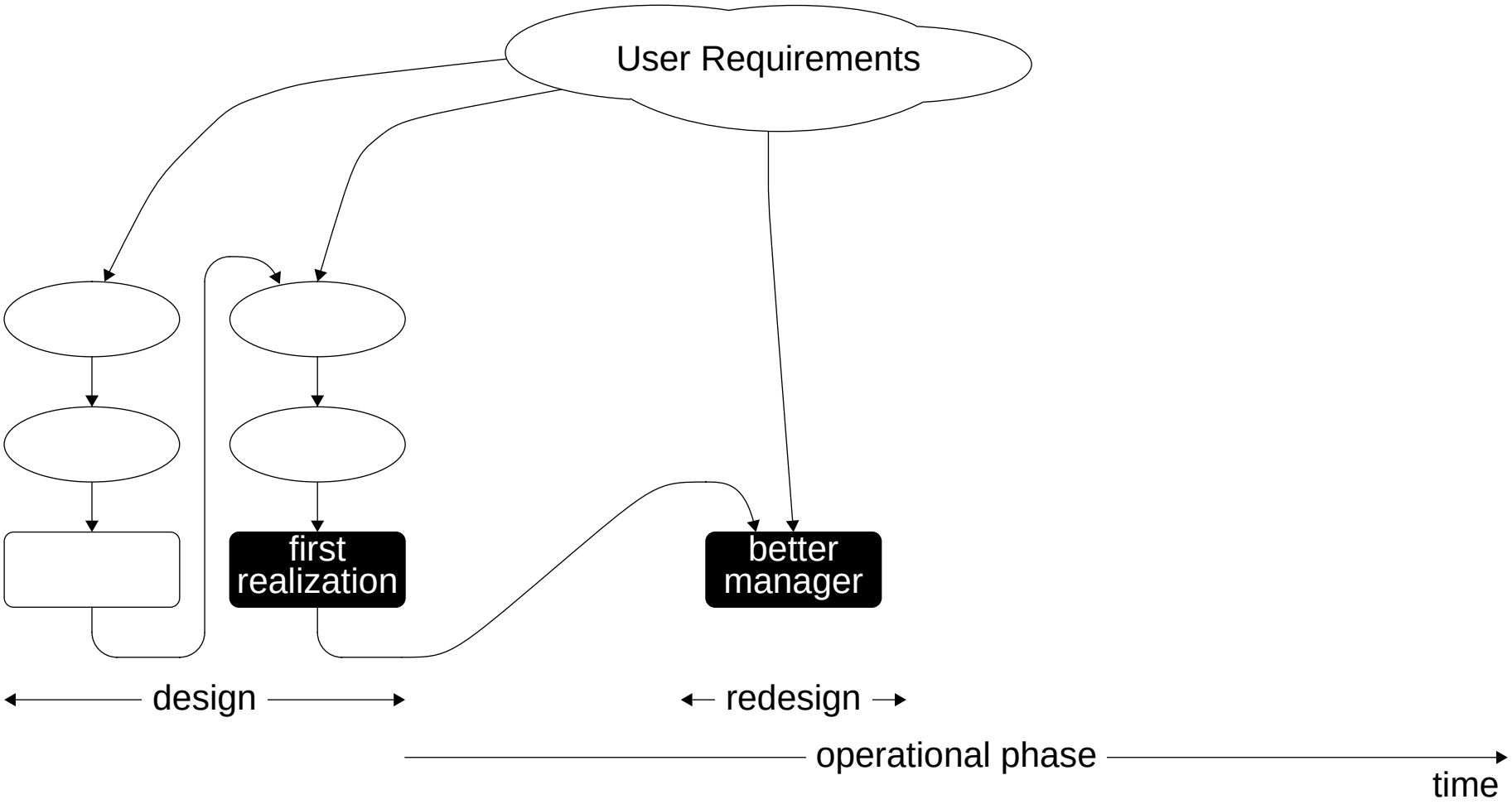


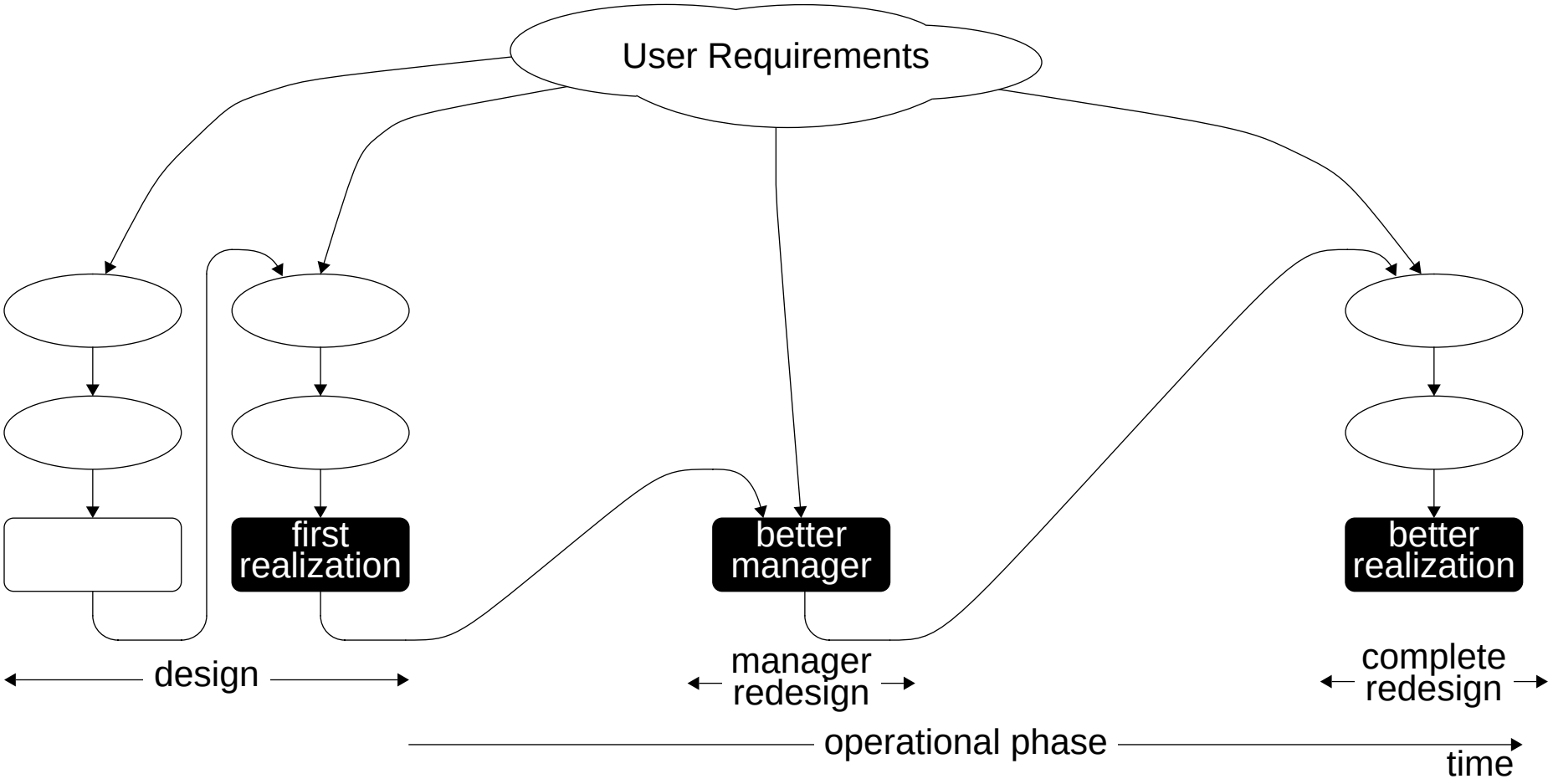
A CYCLIC DESIGN PROCESS

MANAGEMENT	SIGNALLING
CENTRALIZED	DISTRIBUTED
EXPLICIT	IMPLICIT
2 BASIC PDUs	MANY PDUs
VARIABLES	COMMANDS
LOW LEVEL	HIGH LEVEL

REDESIGN


User Requirements
first realization
better manager
design
redesign
operational phase
time

REDESIGN

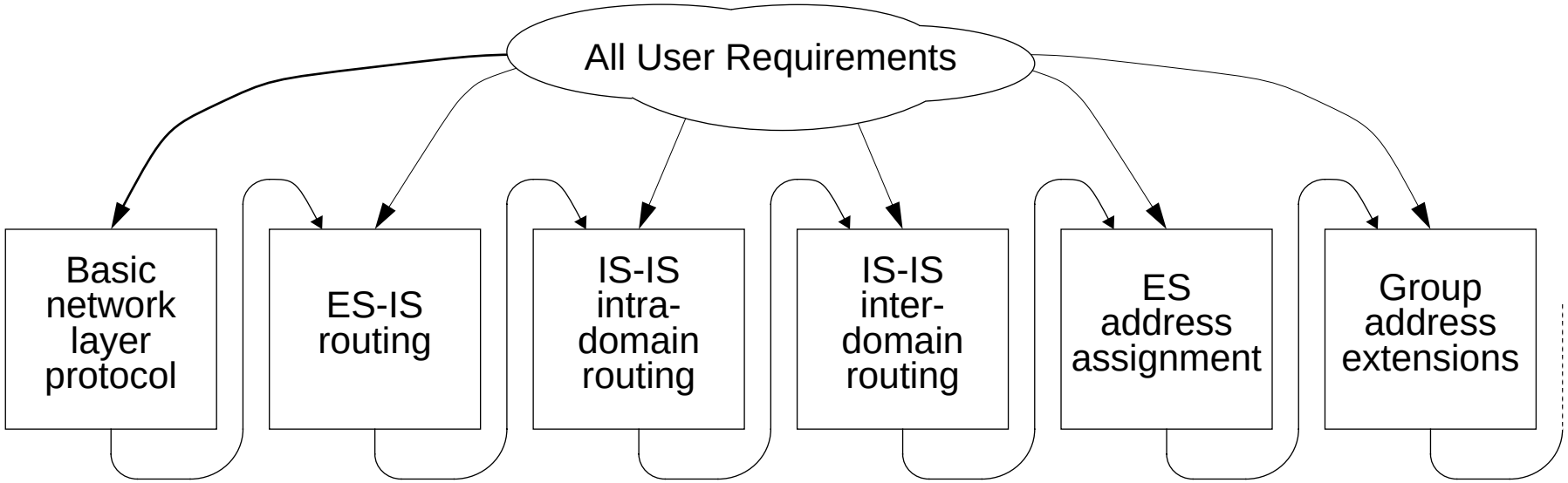

User Requirements
first realization
better manager
better realization
design
manager redesign
complete redesign
operational phase
time

REDESIGN

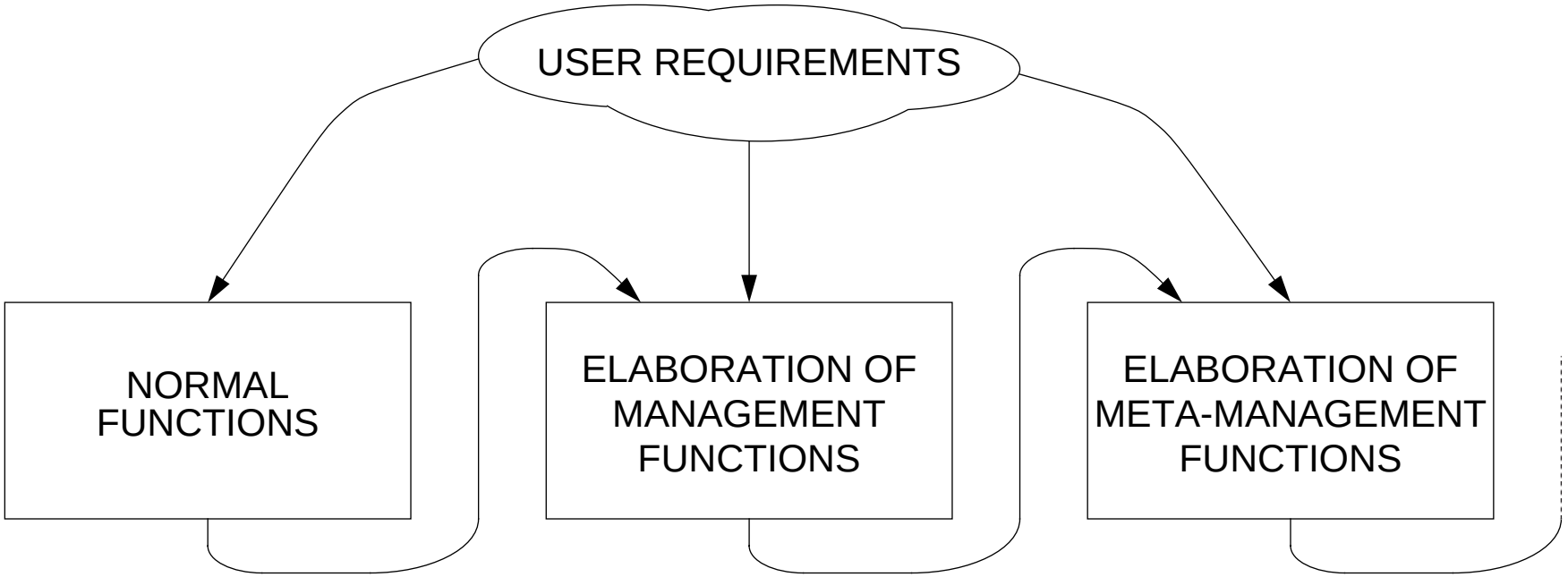
CENTRALIZED	→	DISTRIBUTED
EXPLICIT	→	IMPLICIT
2 BASIC PDUs	→	MANY PDUs
VARIABLES	→	COMMANDS
LOW LEVEL	→	HIGH LEVEL

MANAGEMENT - - - - - → **SIGNALLING**

REDESIGN: EXAMPLE



META-MANAGEMENT



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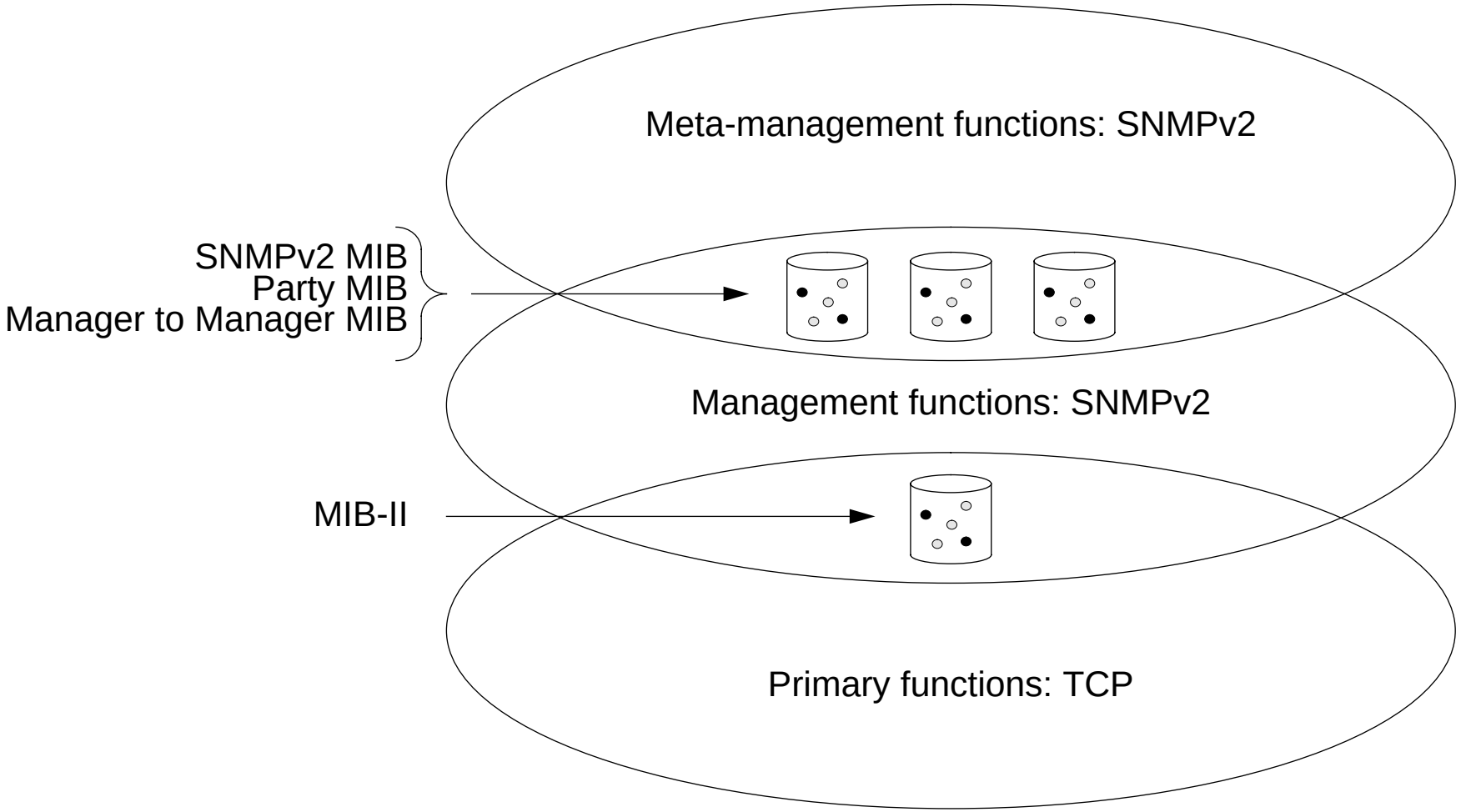
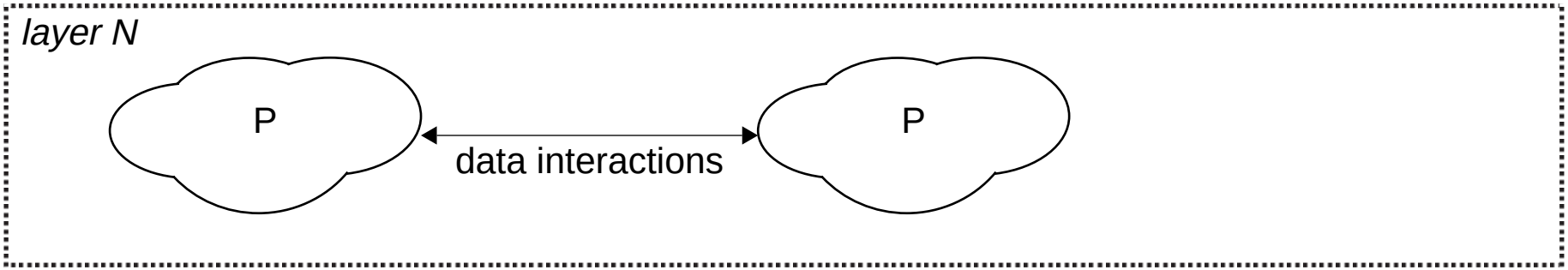


AN INTEGRATED ARCHITECTURE



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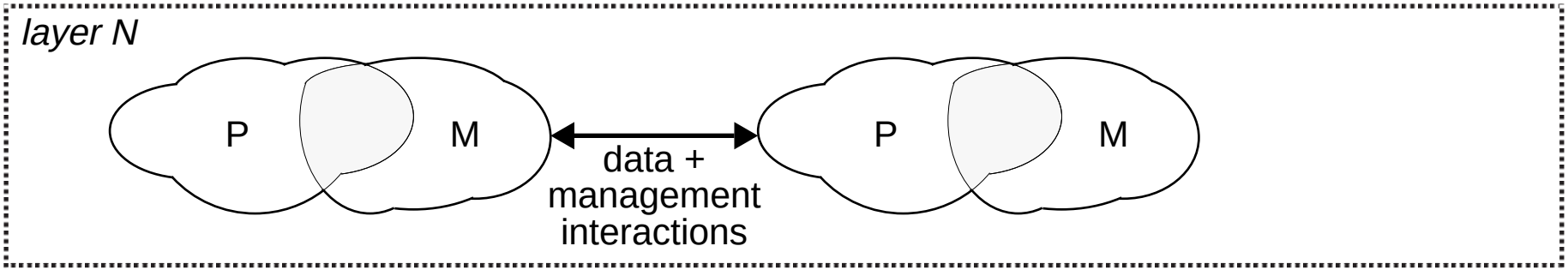

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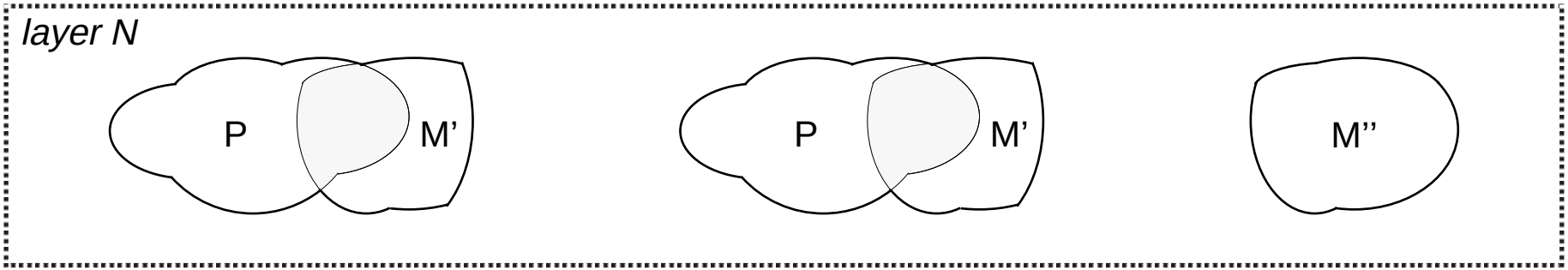

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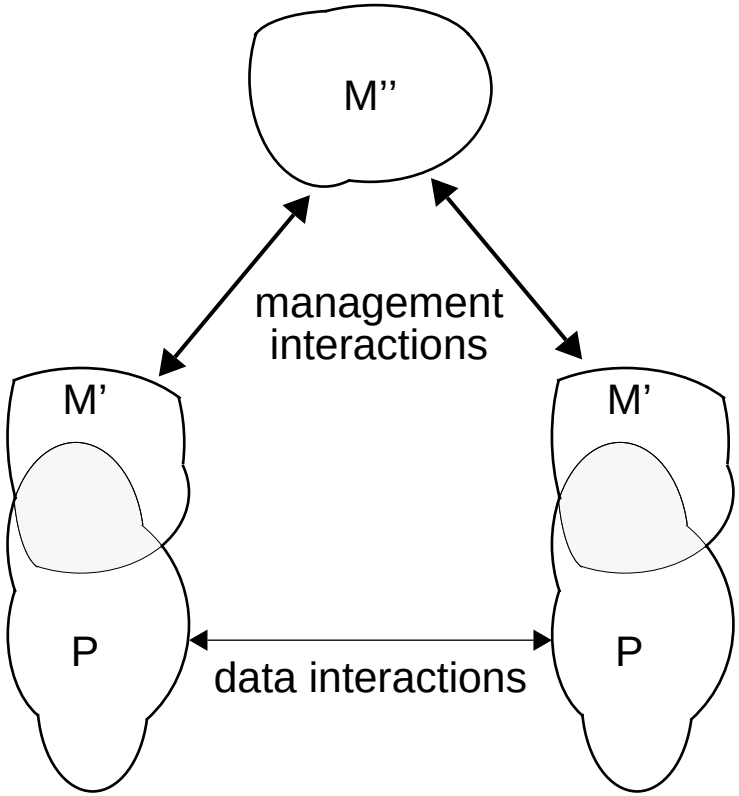

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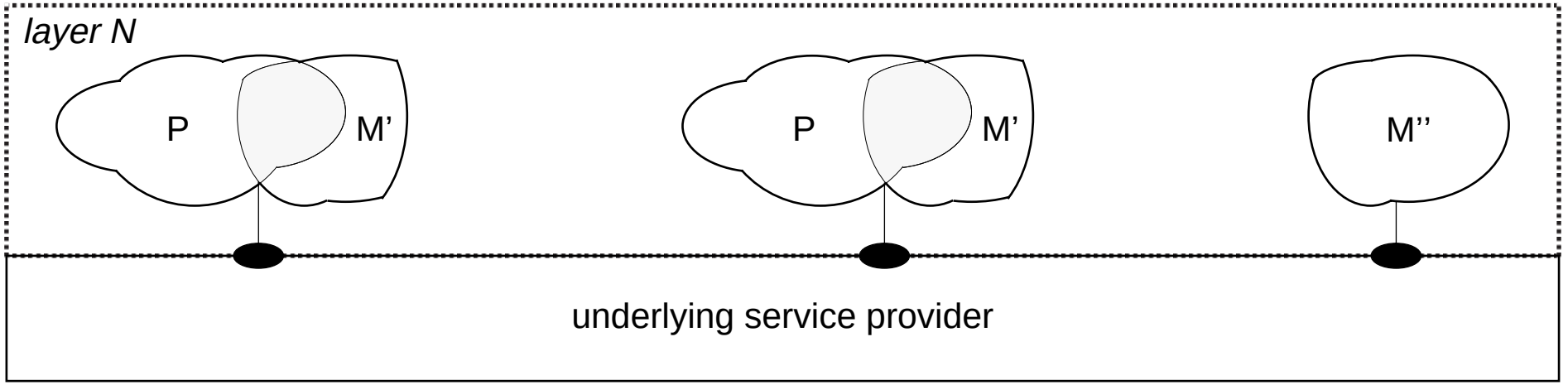

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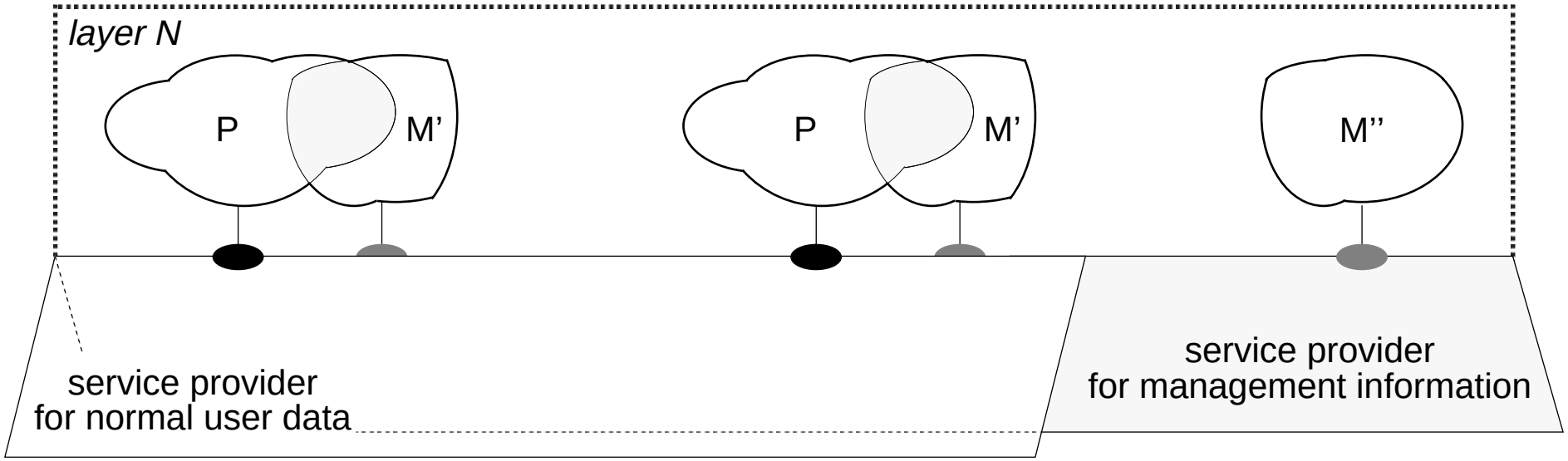
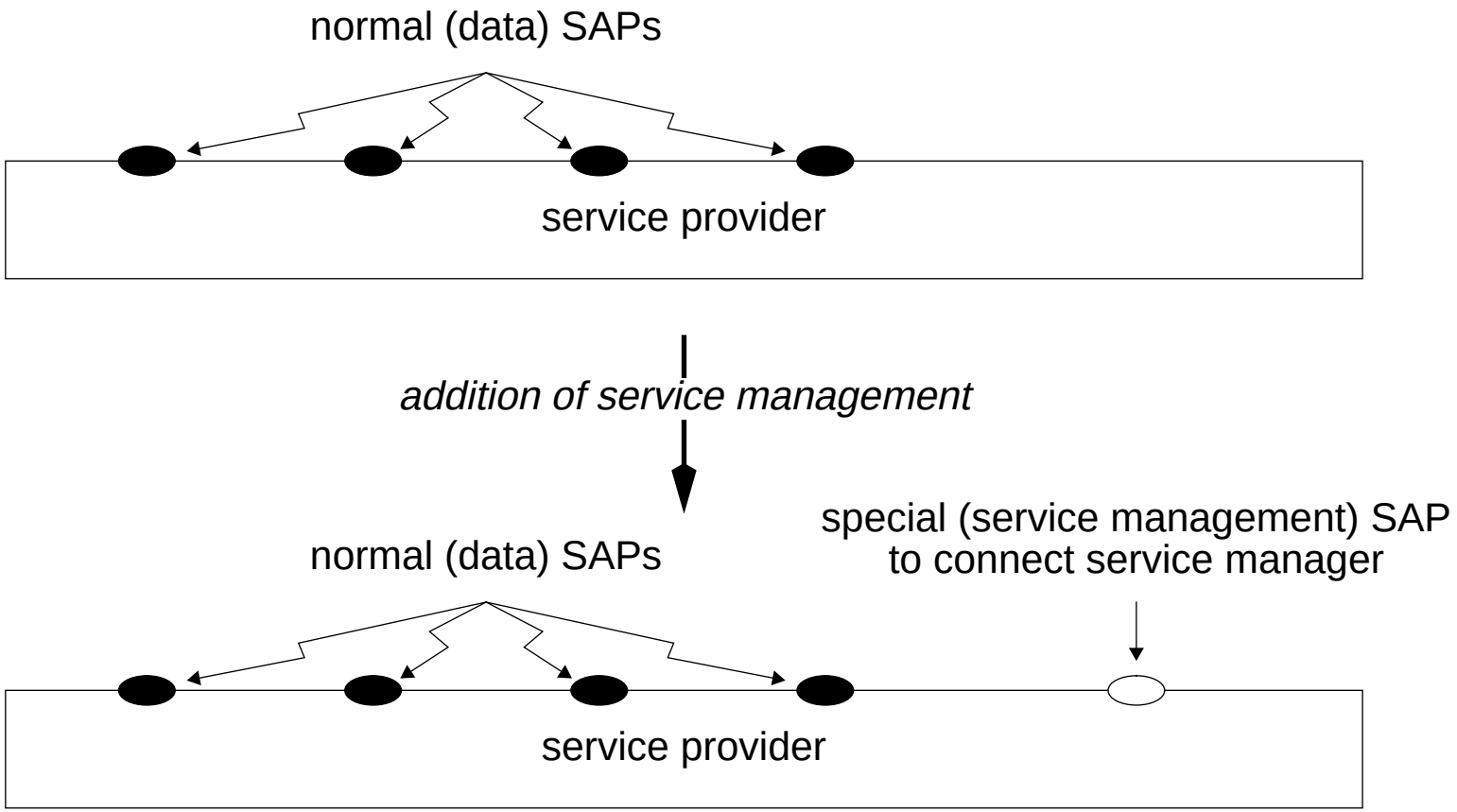


MULTIPLE MANAGEMENT ARCHITECTURES

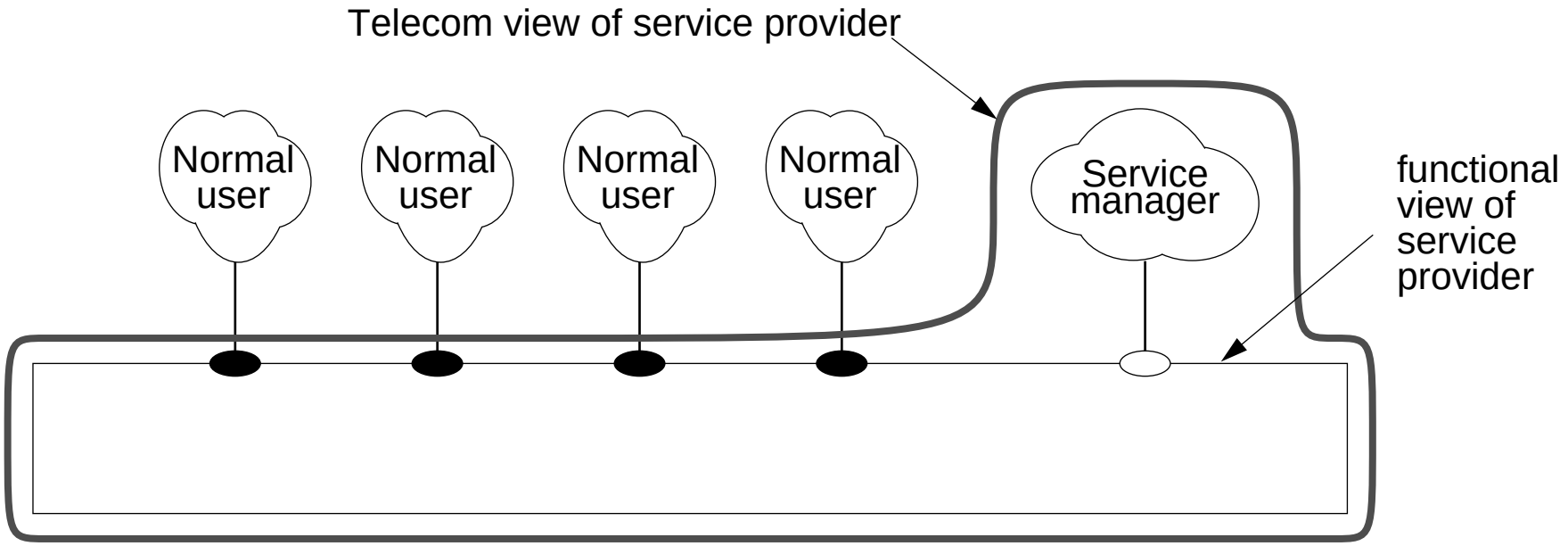
- SERVICE MANAGEMENT
- PROTOCOL MANAGEMENT
- ELEMENT MANAGEMENT

SIMILAR IDEAS AS TMN
BETTER FORMALIZED

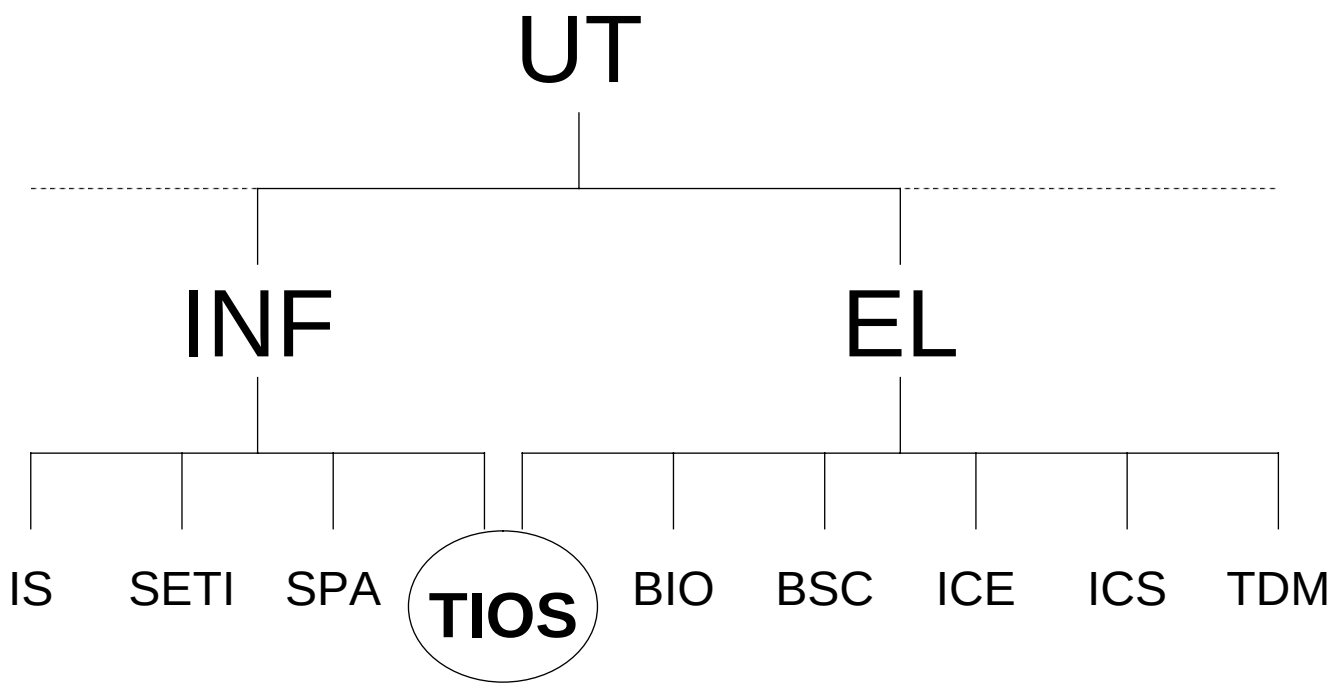
SERVICE MANAGEMENT ARCHITECTURE



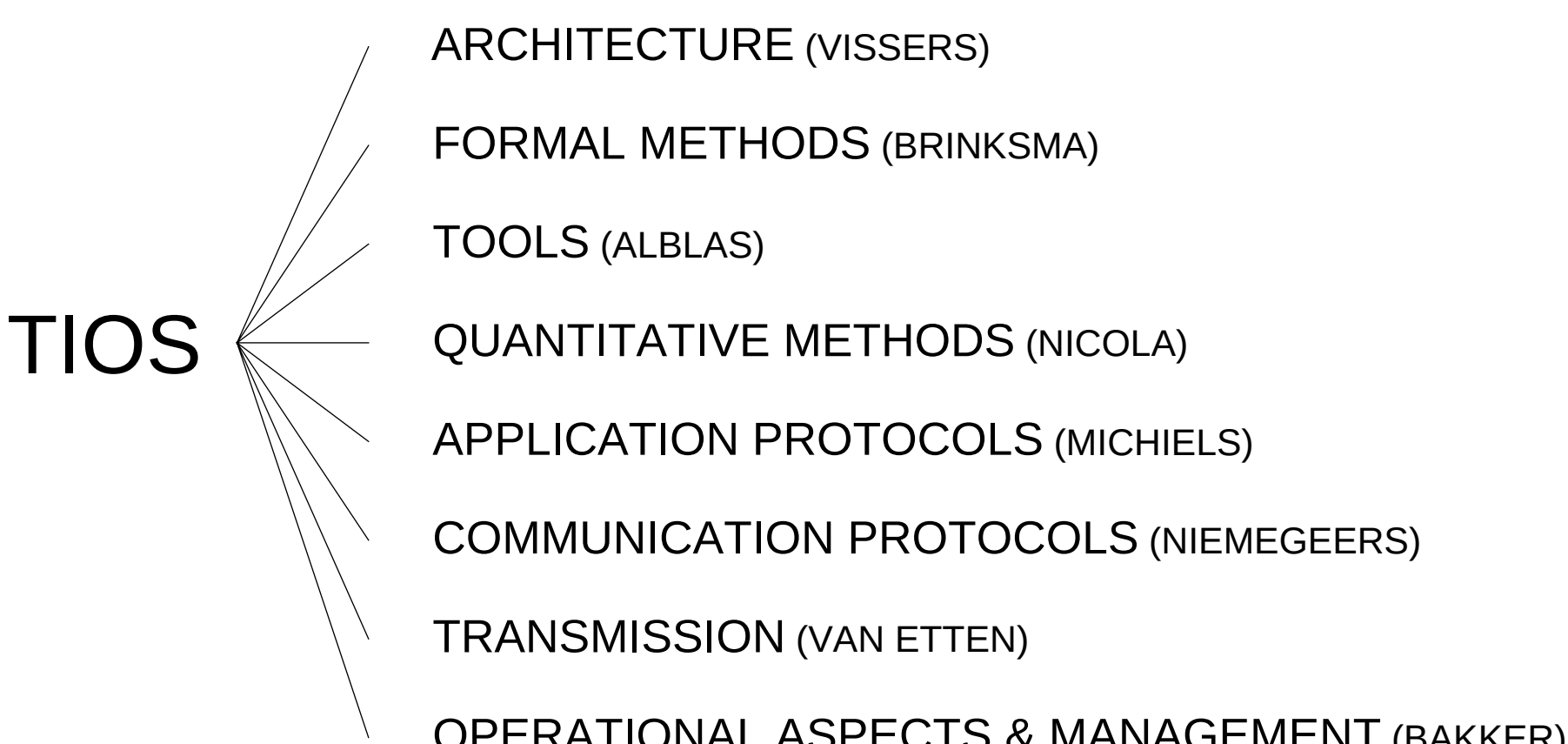
SERVICE MANAGEMENT ARCHITECTURE



TIOS and the UT



ORGANIZATION TIOS



OPERATIONAL ASPECTS & MANAGEMENT

MEMBERS:

- KEES BAKKER (PART-TIME PROFESSOR)
- AIKO PRAS (RESEARCHER)
- ERIC VAN HENGSTUM (SOFTWARE ENGINEER)
- HARRIE HAZEWINKEL (PROJECT RESEARCHER)
- MANY STUDENTS

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PROJECTS:

- UT-SNMPv2 / DAMOCLES (internal)
- ATM MANAGEMENT (SURFNET-4)
- WWW MANAGEMENT (EC)
- HIERARCHICAL MANAGEMENET (EC?)