



# Enterprise Architectures – Experiences in the Library Context

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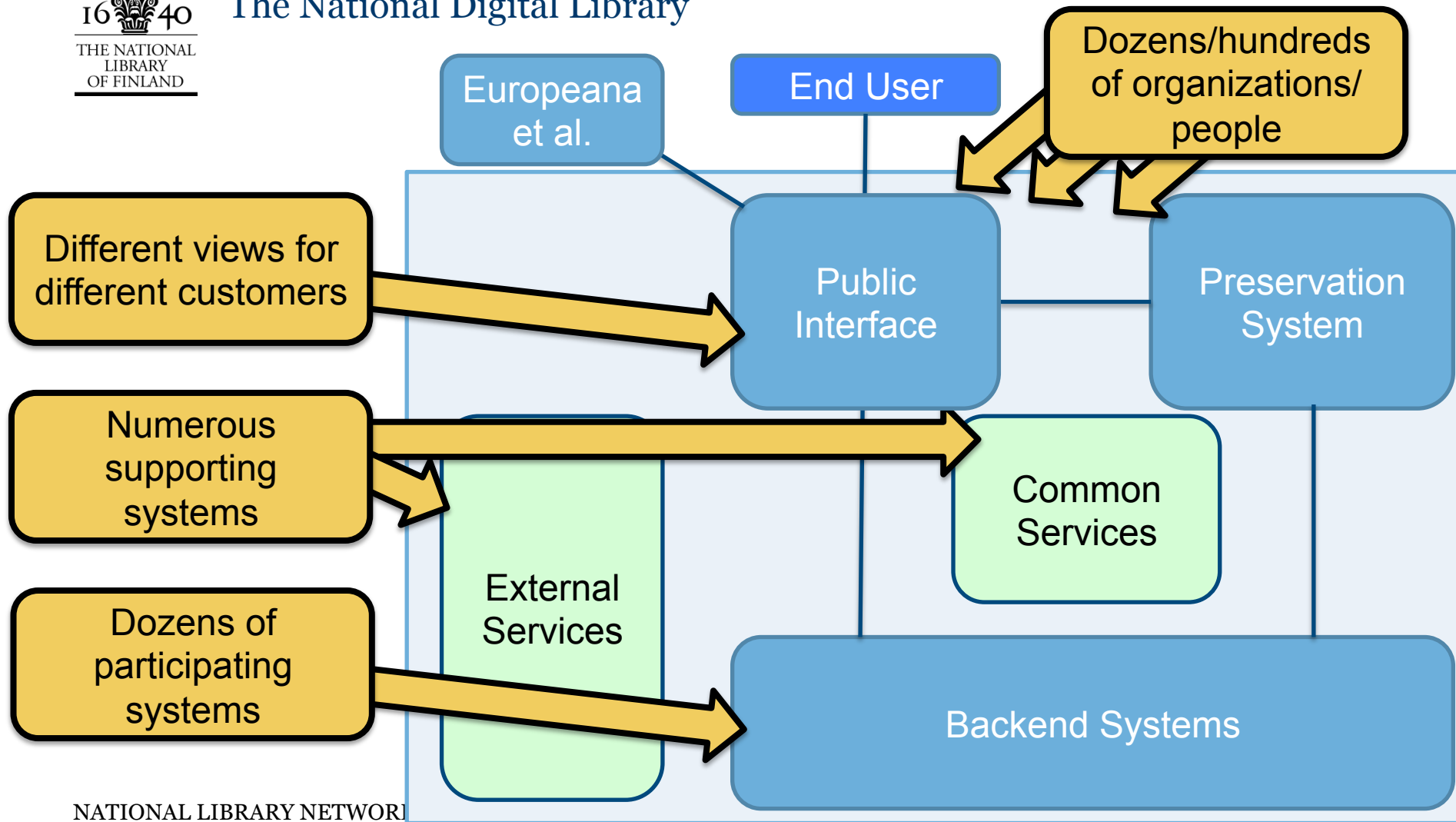
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**LIBER 2012, Tartu**

<http://www.utlib.ee/liber2012/>

# Outline

- Finnish National Digital Library and its challenges
- What is an Enterprise Architecture
- How we implemented it
- Where we succeeded
- What we need to improve



# What is an Enterprise Architecture

- People, processes, information and technology,
- and their relationships to one another and to the outside world.
- Addresses the challenges of the organization.
- Turns its strategy into changes.

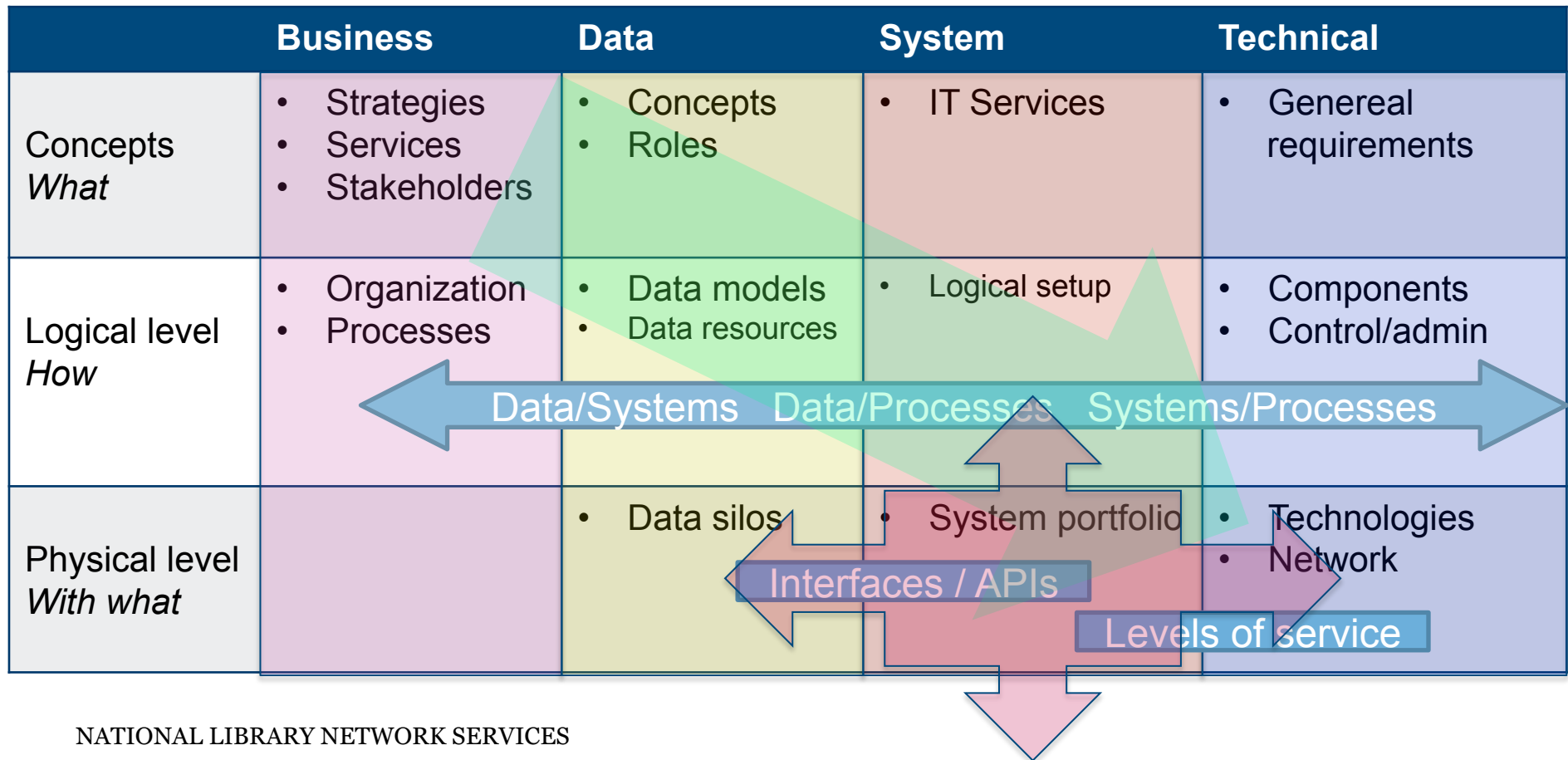
## Benefits of a Formal EA Method

- Helps to cover all aspects – a checklist
- Literature, consultancy available
- Learning a "common language" for better communication
- Skills obtained can be reused

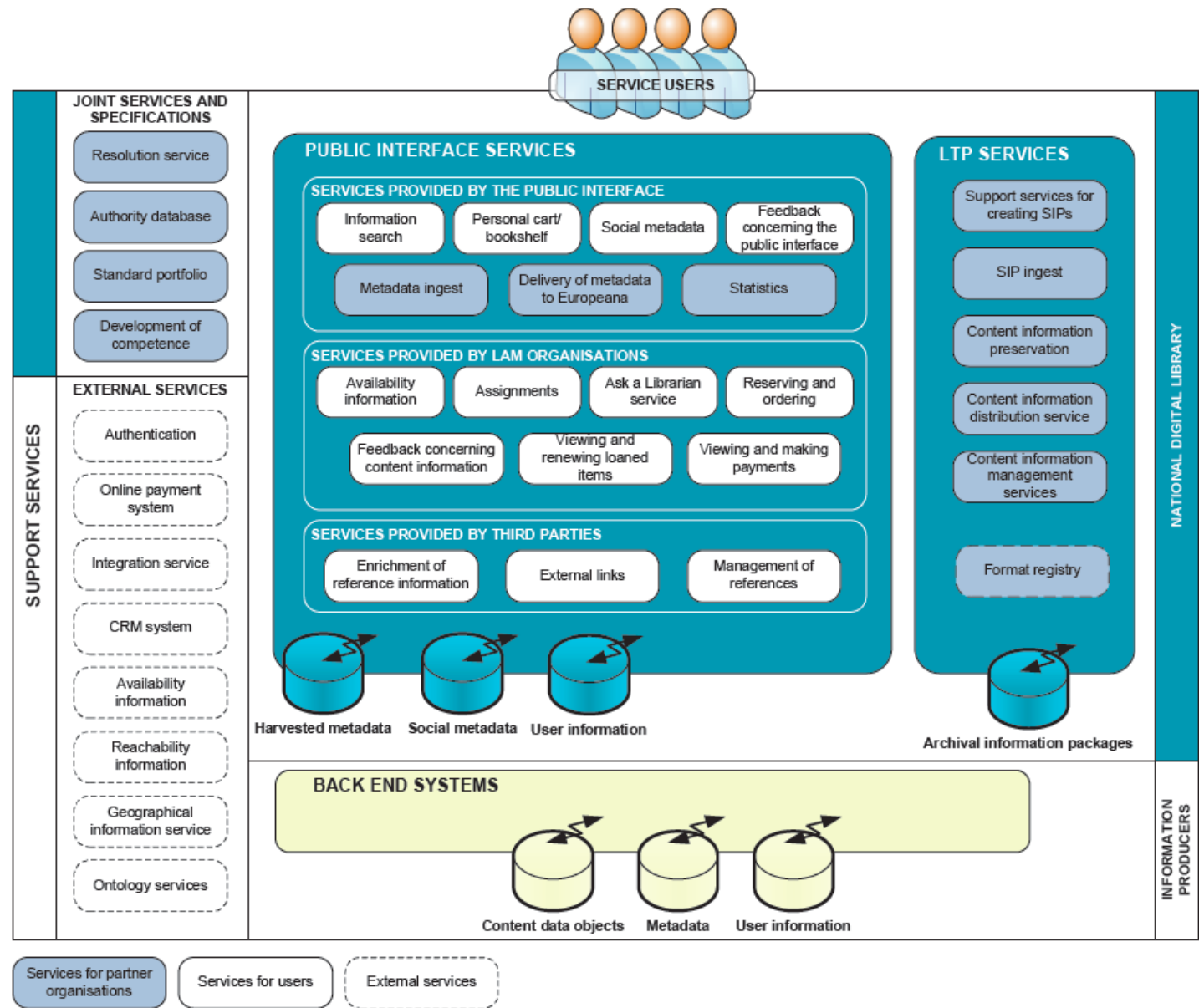
# Enterprise Architecture



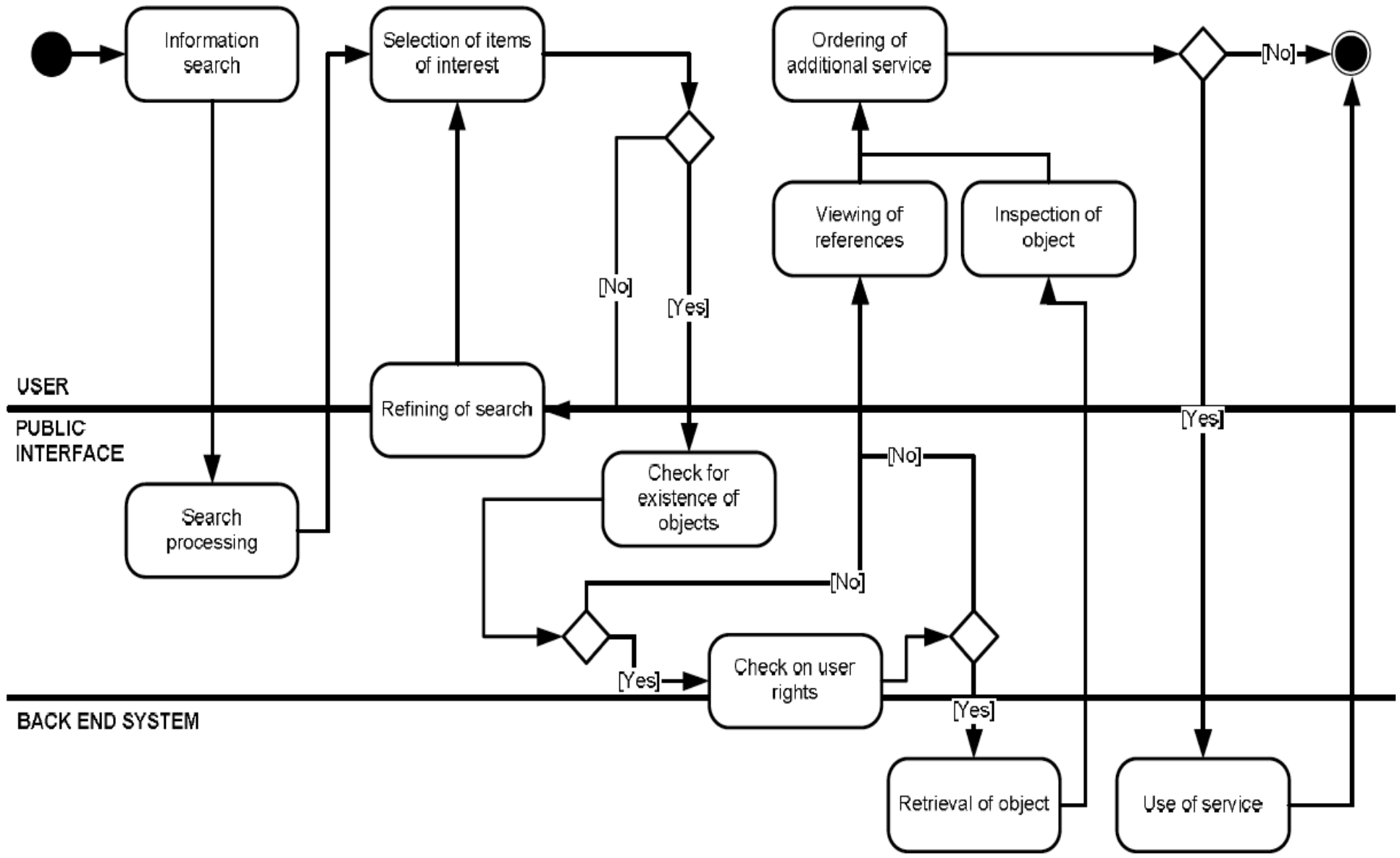
## Aspects and Levels of Abstraction



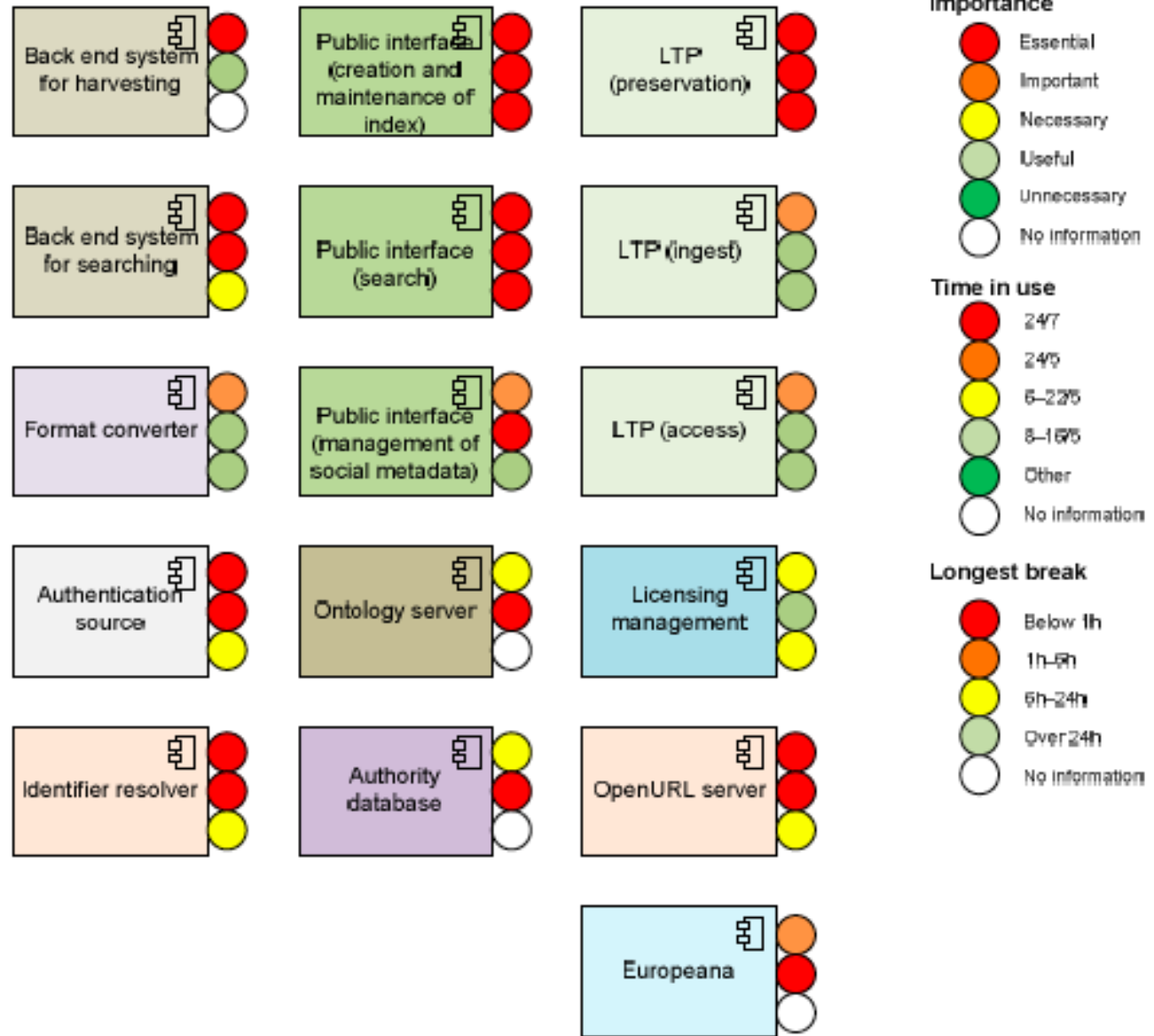
# Service Map







# System map



# Information / Systems

NATIONAL LIBRARY NETWORK SERVICES

	BACK END SYSTEM FOR HARVESTING	BACK END SYSTEM TO BE SEARCHED	FORMAT CONVERTER	PUBLIC INTERFACE		RESOLUTION SERVICE	IDENTITY PROVIDER	ONTOLOGY SERVER	AUTHORITY DATABASE	LTP (PRESERVATION)	LTP (INGEST)	LTP (ACCESS)	LICENCE MANAGEMENT	OPENURL SERVER	EUROPEANA
				CREATION AND MAINTENANCE OF INDEX	SEARCH	MANAGEMENT OF SOCIAL METADATA									

## SEARCH ITEMS

DESCRIPTIVE METADATA FOR HARVESTING	PS	—	RC	RC	R	—	—	—	—	—	UC	—	—	R	RC
DESCRIPTIVE METADATA FOR SEARCHING	—	PS	—	—	R	—	—	—	—	—	UC	—	—	R	RC
SOCIAL METADATA	—	—	—	—	R	PS	—	—	—	—	—	—	—	—	—
ACTIONABLE IDENTIFIER	PS	PS	R	RC	R	—	RC	—	—	—	UC	UC	—	—	RC
OTHER IDENTIFIER	PS	PS	R	RC	R	—	—	—	—	—	UC	UC	—	—	RC
POSITION INFORMATION (URL)	PS	PS	R	RC	R	—	RC	—	—	—	UC	—	—	—	RC
STORAGE INFORMATION (PHYS. OBJ.)	PS	PS	—	—	R	—	—	—	—	—	—	—	—	—	—
LICENSING INFORMATION	—	—	—	—	R	—	—	—	—	—	—	—	—	PS	R
OTHER ADMINISTRATIVE METADATA	PS	PS	—	—	R	—	—	—	—	—	UC	UC	—	—	—
TECHNICAL METADATA	PS	PS	—	—	R	—	—	—	—	—	UC	UC	—	—	—
DIGITAL OBJECT	PS	PS	—	—	R	—	—	—	—	—	UC	—	—	—	R
ONTOLOGY TERM	RC	RC	R	RC	R	—	—	—	PS	—	—	UC	—	—	RC
AUTHORITY INFORMATION	RC	RC	R	RC	R	—	—	—	—	—	—	UC	—	—	RC

## USERS

USER ATTRIBUTES	R	R	—	—	R	—	—	PS	—	—	—	R	R	R	—	—
USER INFORMATION	PS	PS	—	—	R	—	—	—	—	—	—	—	—	—	—	—
USER SEARCH HISTORY	—	—	—	—	PS	R	—	—	—	—	—	—	—	—	—	—
USER LOANS	PS	PS	—	—	R	—	—	—	—	—	—	—	—	—	—	—

## LONG-TERM PRESERVATION

SIP	PS	PS	—	—	—	—	—	—	—	—	—	UC	—	—	—	—
AIP	—	—	—	—	—	—	—	—	—	—	—	PS	—	—	—	—
DIP	UC	UC	—	UC	—	—	—	—	—	—	—	—	PS	—	—	—

PS: Parent system – System with primary responsibility for the information

U: Update – System updates the information

R: Read – System reads the information

UC: Update copy – System updates the copy of the information in its own database

RC: Read copy – System reads the copy of the information in its own database

# EA management

- EA model
  - How one employs an EA method
- Governance Model
  - How one manages EA planning, makes policies concerning EA, and ensures compliance to them
- Maturity Model
  - How to measure advancements in EA work

## Maturity Model

### Strategic

- EA is a strategic tool for management an planning

### Managed

- EA exists and is managed, evaluated, analysed, corrected

### Defined

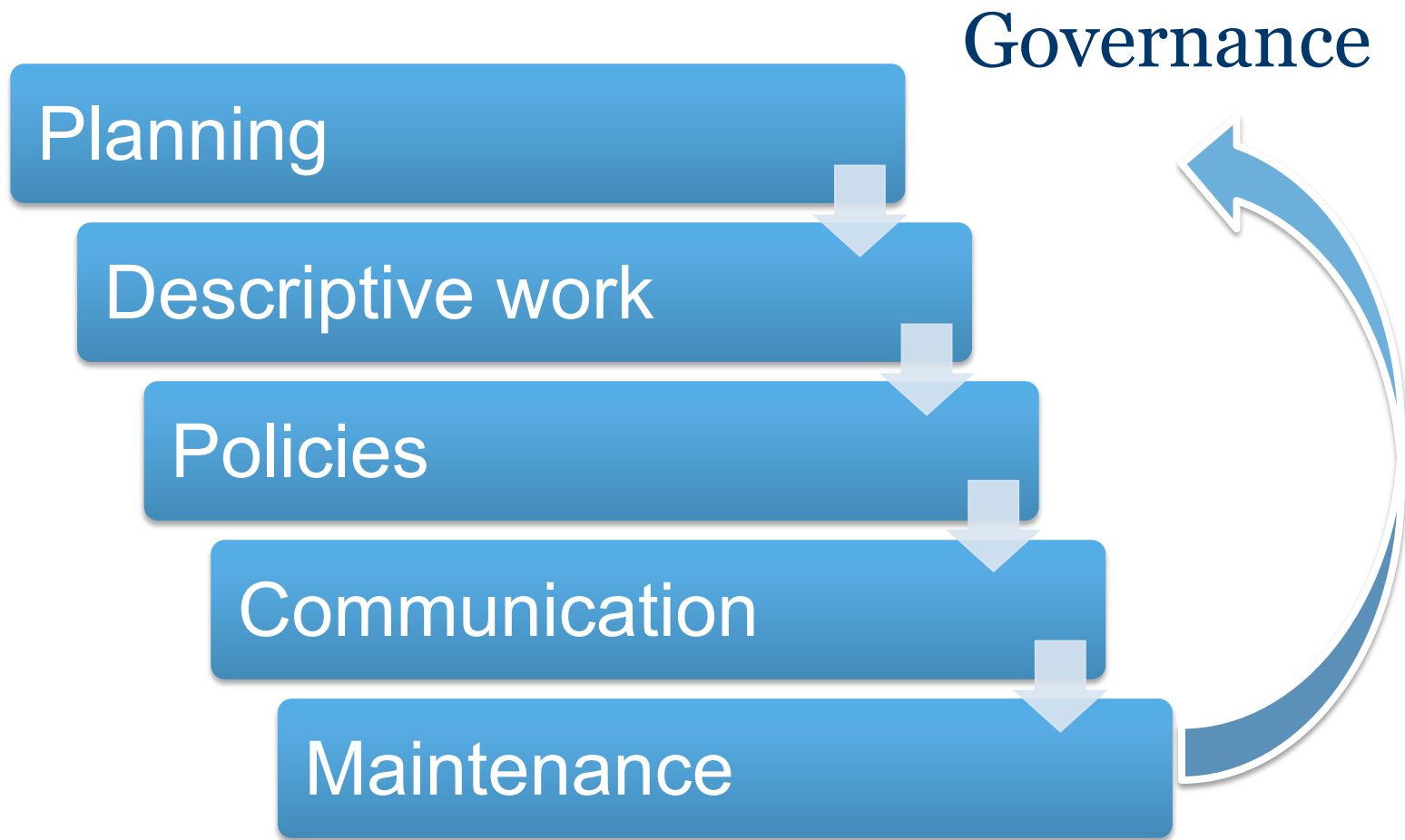
- EA is formalized, EA work has been organized

### Partial

- Some EA processes, structures and tools employed

### Uncontrolled

- No defined EA methods. EA work sporadic.



## Standard Portfolio

- General standards (Unicode, accessibility, recommended file formats)
- Metadata and Cataloguing Rules
- APIs for metadata harvesting, search, etc.
- Identifiers
- Authentication and authorization
- Recommended thesauri
- And others



## EA has brought us together

- The journey is at least as important as the destination
- Getting behind the surface / interface / facade
- Understanding practices, terminology, customer needs
- Has helped to identify needs for common services within NDL
- Has led to initiatives on interoperability



## Challenges for the future

- Going beyond IT and data – towards business and people.
- Going beyond metadata – pay attention to supporting business data and processes.
- Harmonizing organizational and business affiliation, e.g. a library as a part of a university and as a part of the library community.
- From documentation to a way of life.

## Enterprise Architectures as a Government Policy Tool

- Act on Information Management Governance in Public Administration
  - <http://bit.ly/LdSTOh>
- EAs as a legal obligation for public agencies
- Government-level EA
- Common trend in developed countries

