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# **Preservation Management in Practice : Trusted Workflow**

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Sciences**



# Outline

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- 1 Introduction to Workflow Management**
- 2 Workflow Management Framework in NSL**
- 3 Workflow Management in Action**
- 4 Further Questions**



# 1 Introduction to Workflow Management

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## 1.1 Definition

- “the automation of a business process, in whole or part, during which documents, information or tasks are passed from one participant to another for action, according to a set of procedural rules”.

(Workflow Management Coalition, WfMC. <http://www.wfmc.org/>)

- “used to describe the tasks, procedural steps, organizations or people involved, required input and output information, and tools needed for each step in a business process.”  
([http://searchcio.techtarget.com/sDefinition/0,,sid19\\_gci213384,00.html](http://searchcio.techtarget.com/sDefinition/0,,sid19_gci213384,00.html))

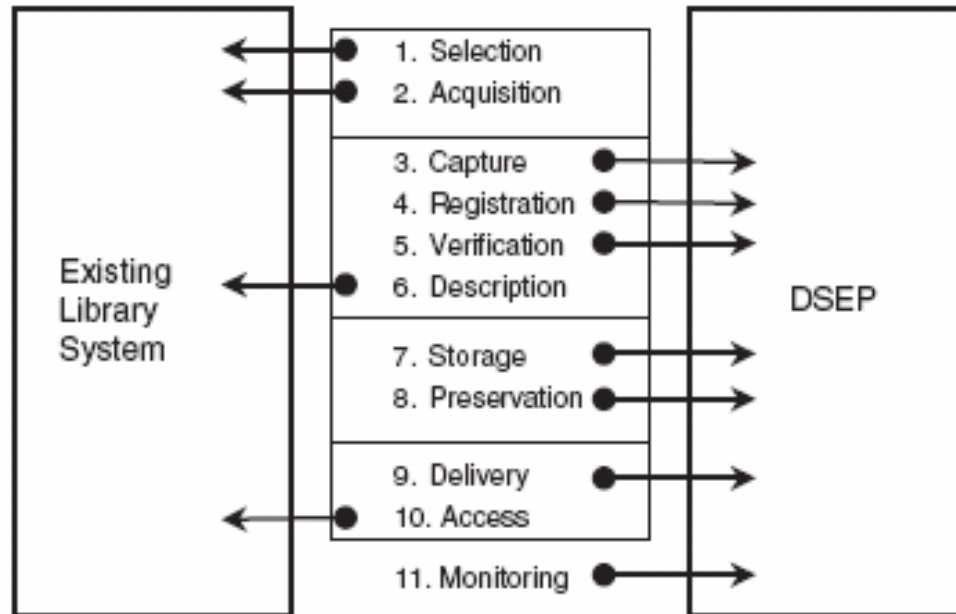


# 1 Introduction to Workflow Management

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## 1.2 Related Works

### ▪ DSEP Process Model



—— Titia van der Werf. DESP: A process model.

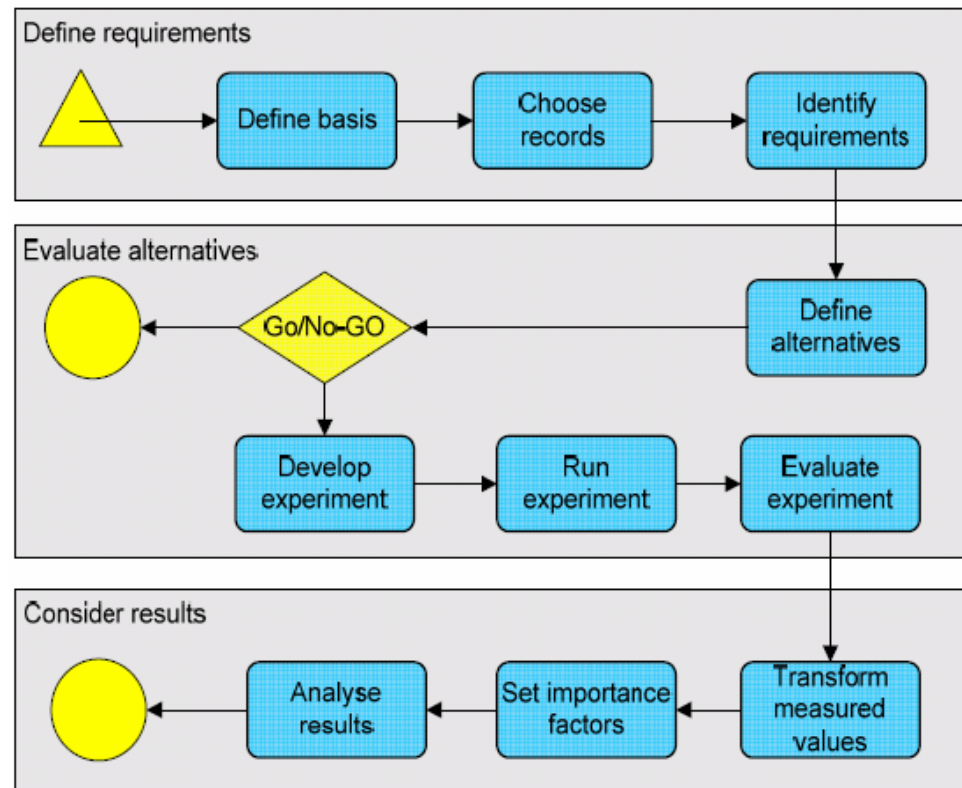


# 1 Introduction to Workflow Management

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## 1.2 Related Works

- **Vienna University of Technology's Planning Workflow**  
following the principles of the PLANETS methodology





# 1 Introduction to Workflow Management

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## 1.2 Related Works

- **Nestor:** <http://nestor.sub.uni-goettingen.de/index.php>
- **Planets :** <http://www.planets-project.eu/>
- **REMAP:** <http://www.hull.ac.uk/remap/index.html>
- **PAWN:** <http://narawiki.umiacs.umd.edu/twiki/bin/view/Main/PAWN>
- **Stephan Heuscher's opinions**  
( "Workflows in Digital Preservation." -ERPANET Workshop on Workflow, 2004.)
- ...

**Mostly focus on designing a workflow and workflow automation**



# 1 Introduction to Workflow Management

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## 1.3 Why DP need trusted workflow management?

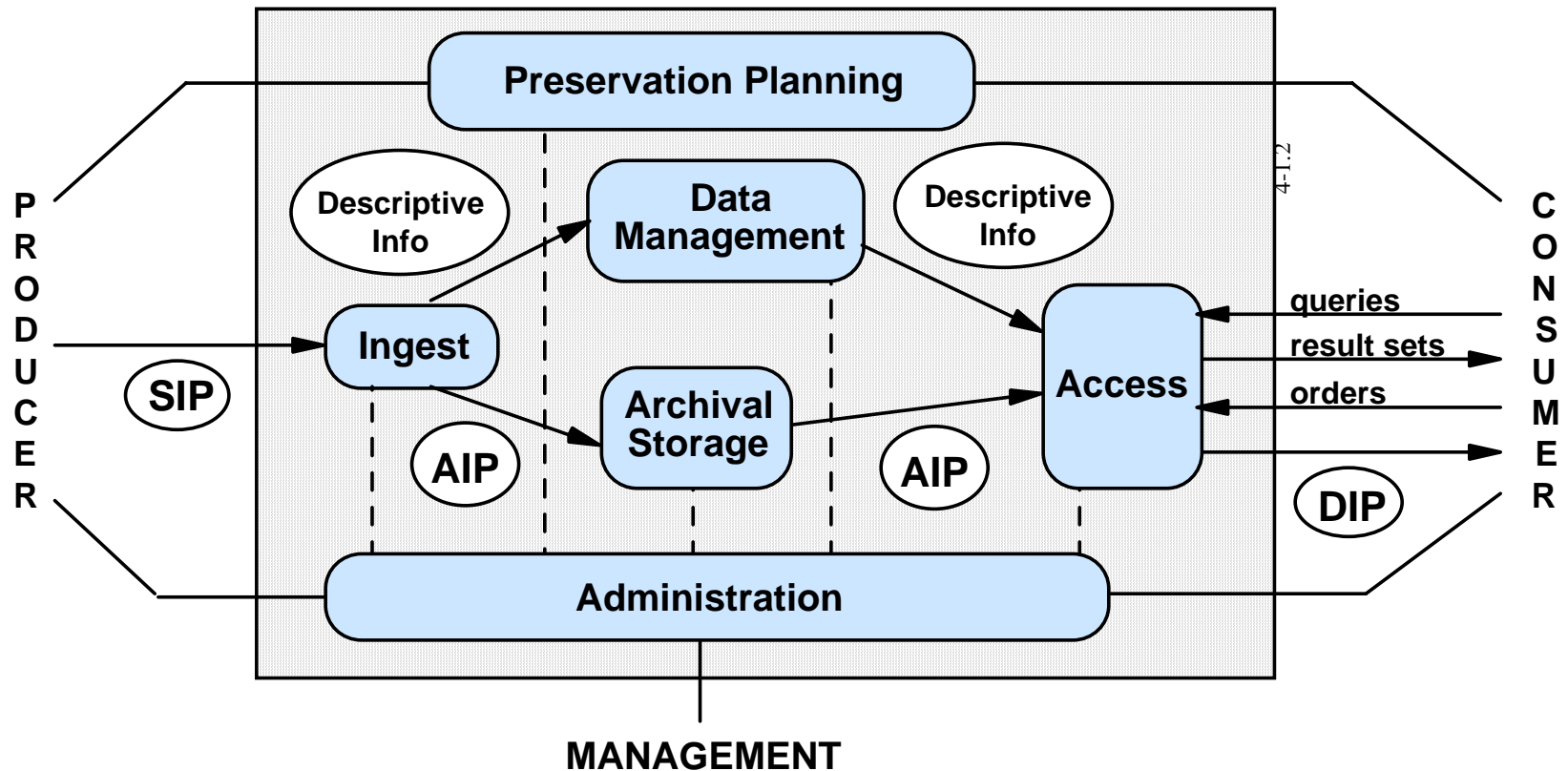
- **Expensive**
- **Complicated**
- **Uncorrectable immediately**
- **Multi\_participant**
- **...**



## 2 Workflow Management Framework

### 2.1 NSL's WfMF(workflow management framework)

- Based on OAIS







# 2 Workflow Management Framework

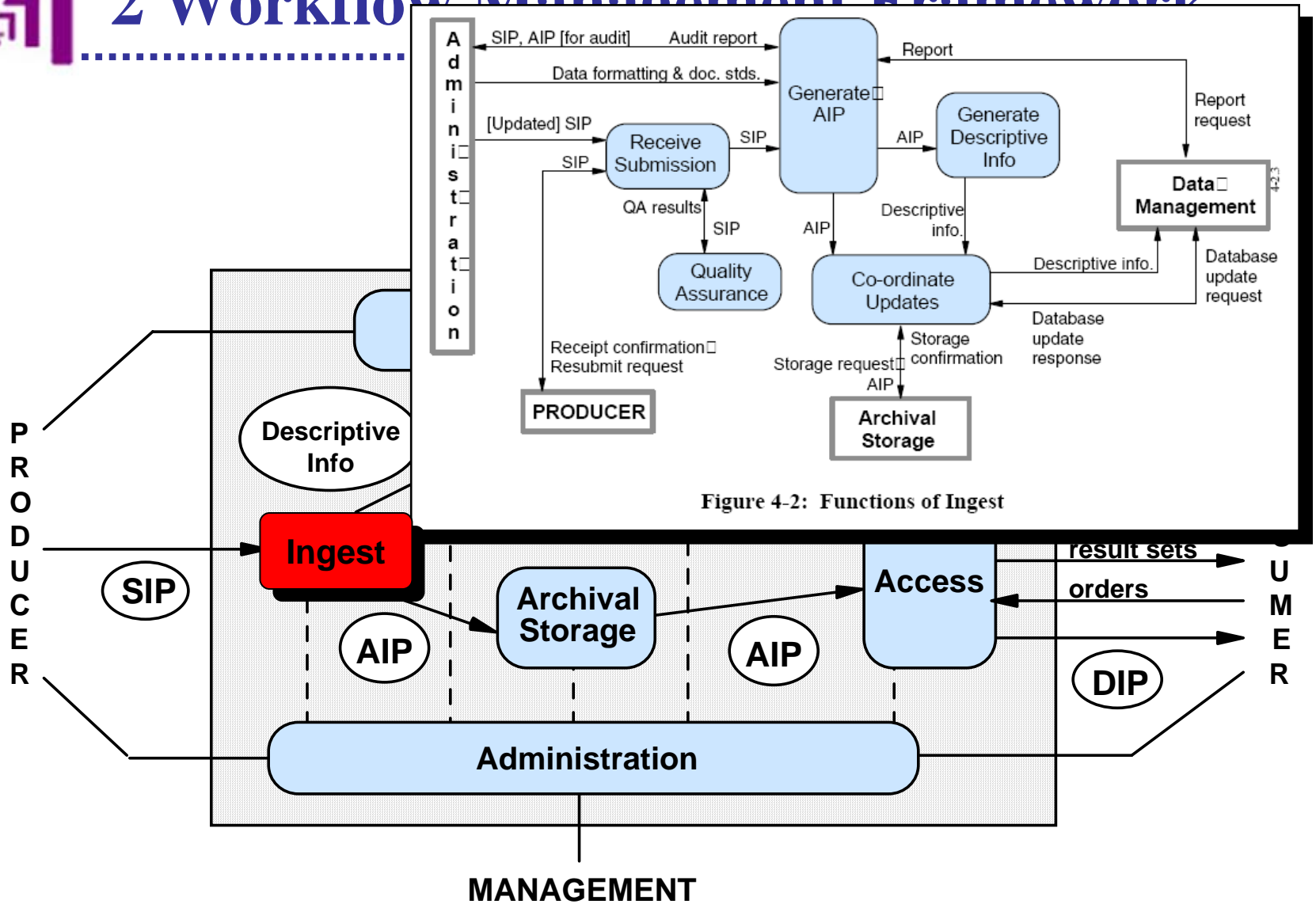
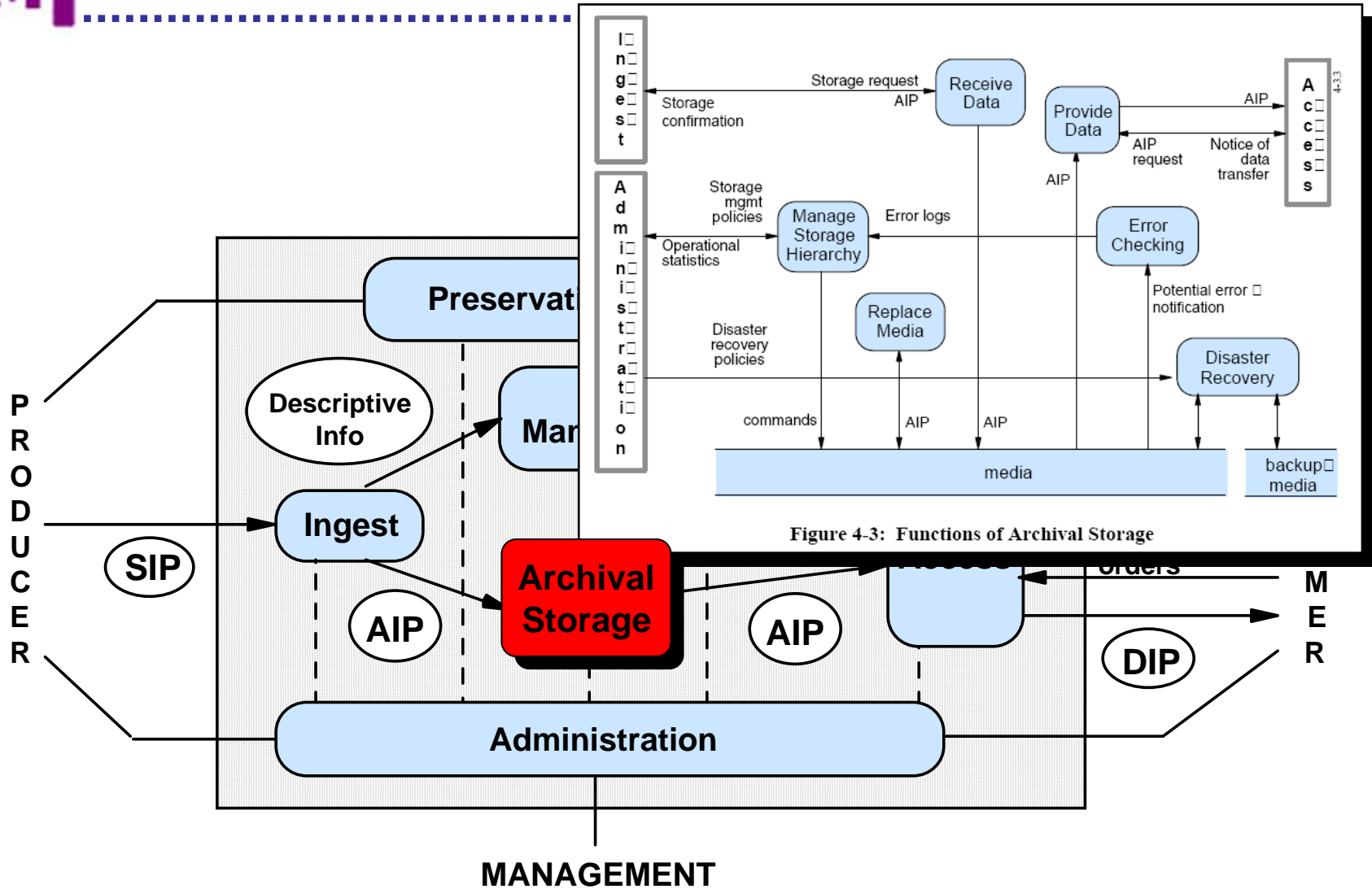


Figure 4-2: Functions of Ingest



# 2 Workflow Management Framework





# 2 Workflow Management Framework

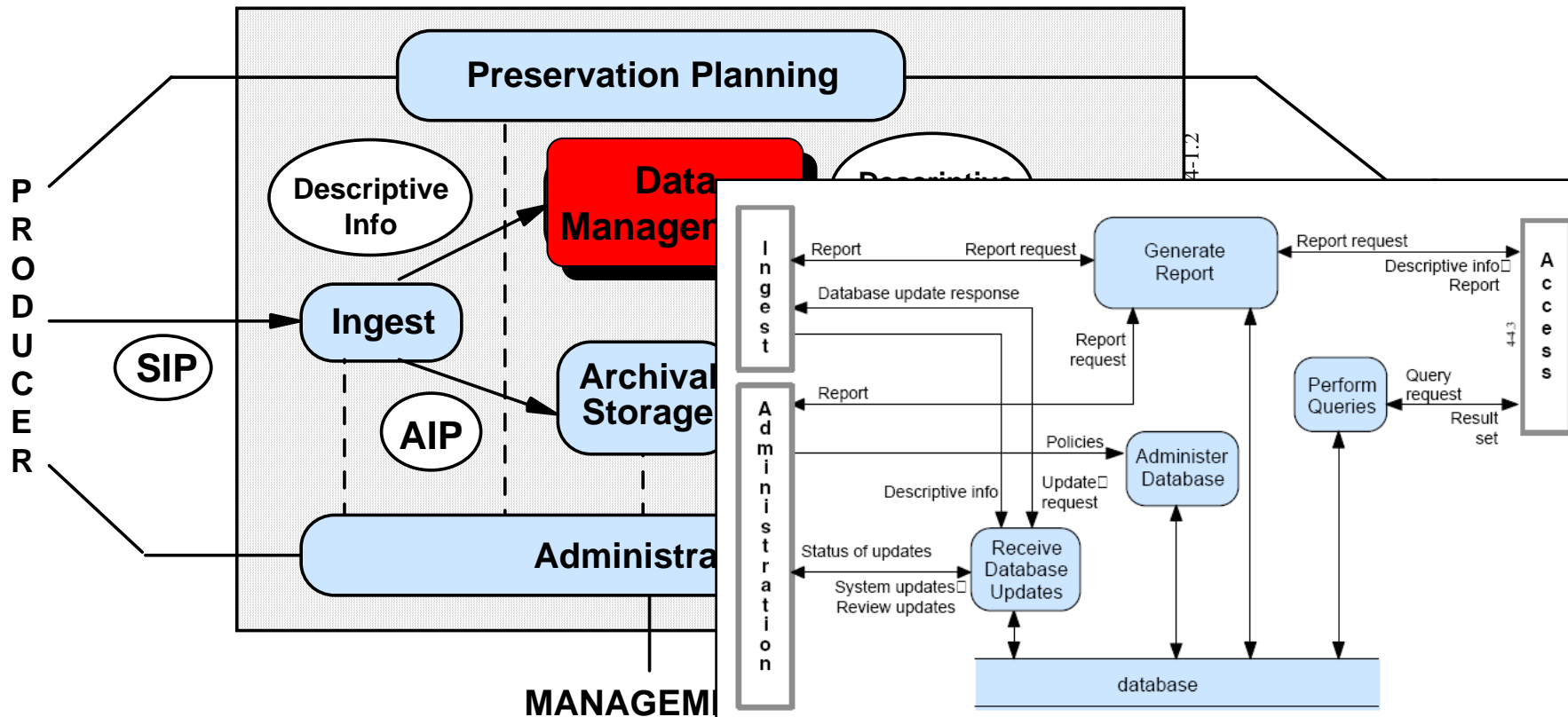


Figure 4-4: Functions of Data Management





# 2 Workflow Management Framework

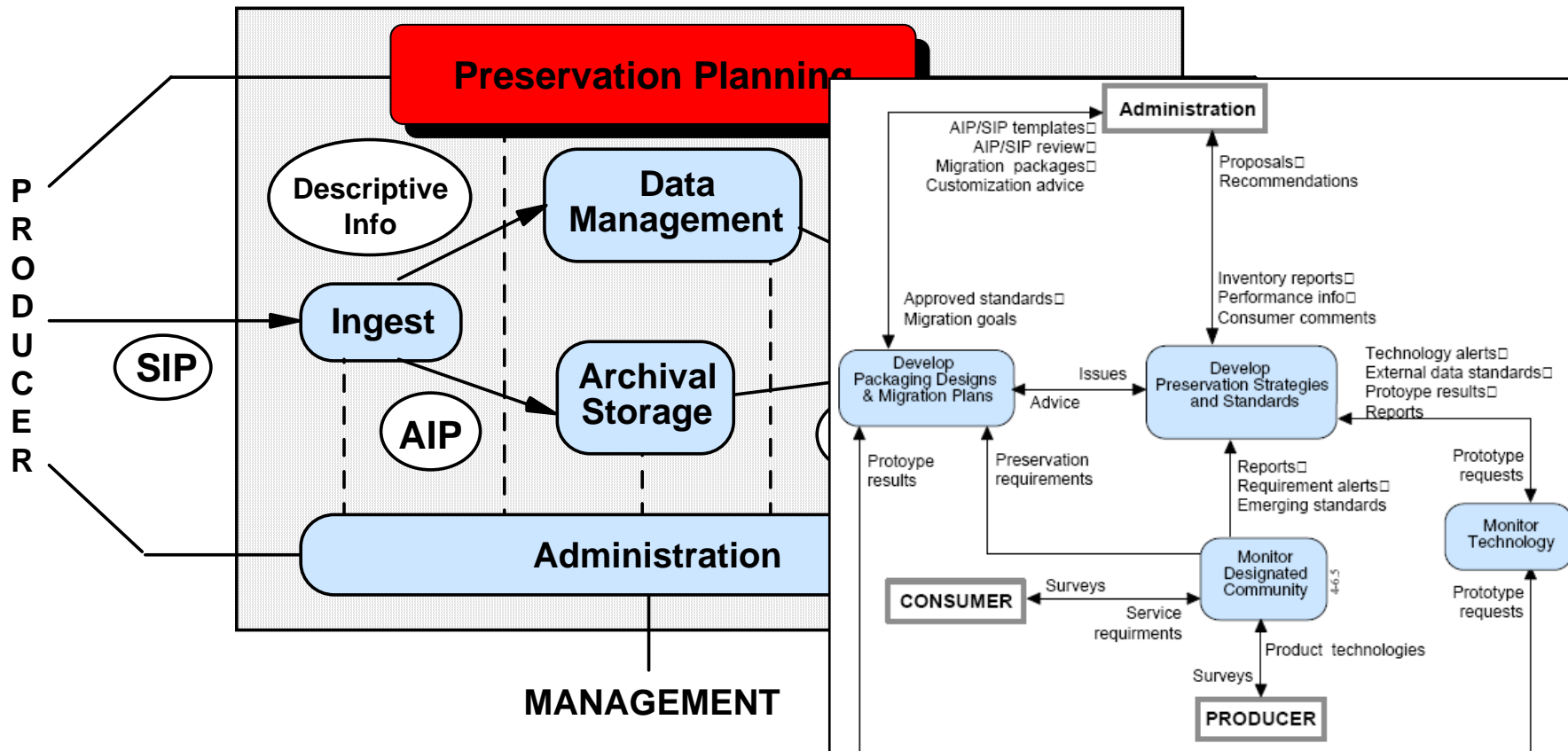


Figure 4-6: Functions of Preservation Planning



# 2 Workflow Management Framework

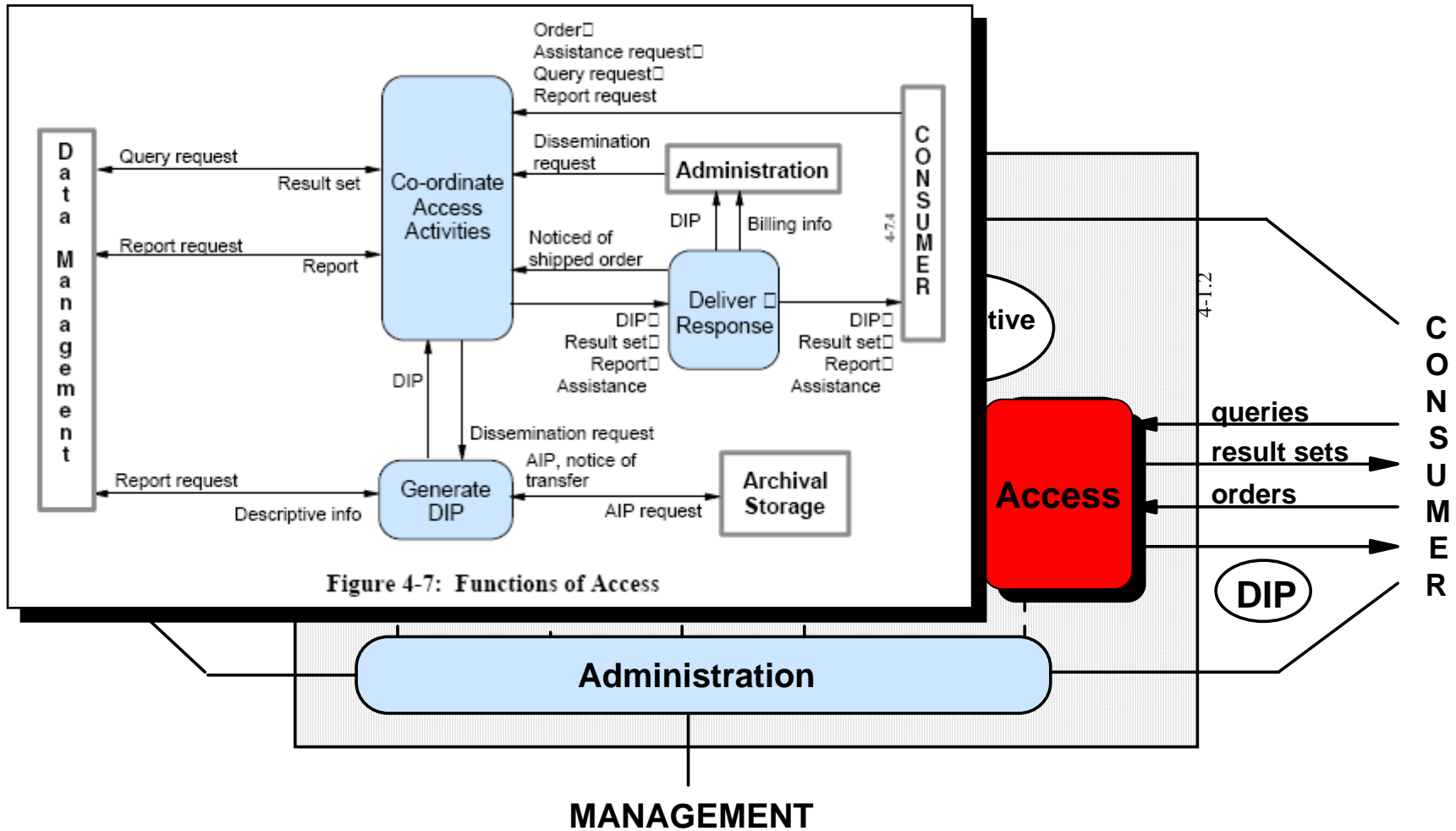


Figure 4-7: Functions of Access



## 2 Workflow Management Framework

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### 2.2 Attributes of trusted workflow management

- Clear defined processes and relations
- Well documents
- Clear responsibility
- With necessary resource support(tools,methods and funds,etc.)
- Correcting mistake ability
- Verifiable
- Auditable
- ...



## 2 Workflow Management Framework

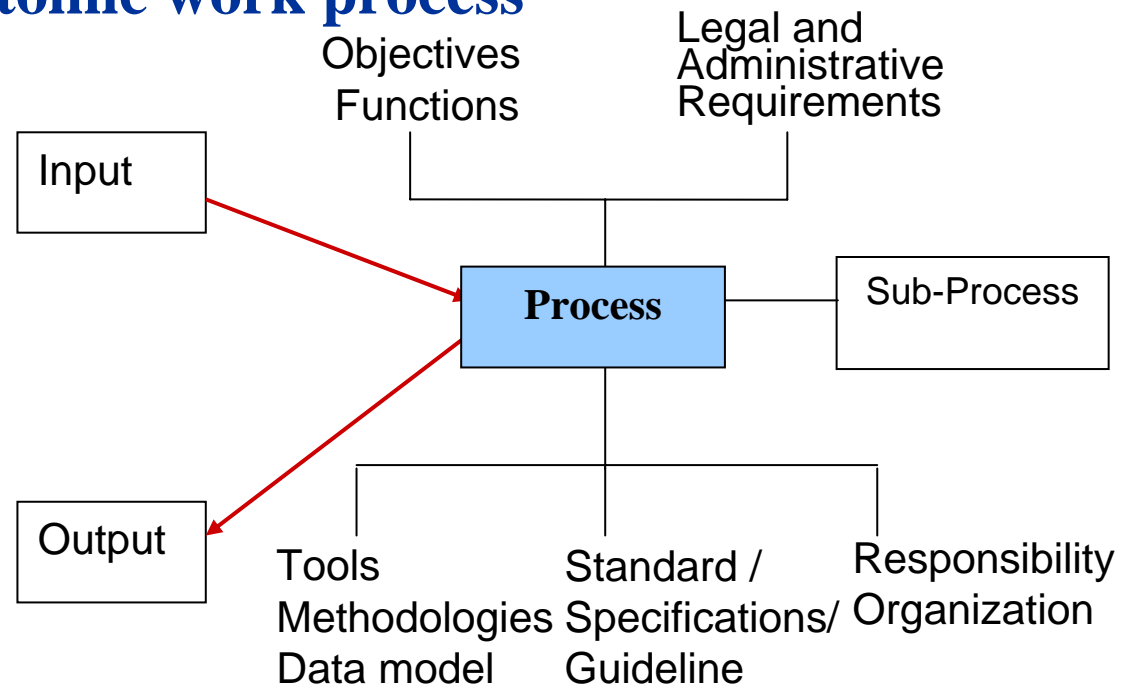
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### 2.3 Atomic work process management model

- A workflow makes up of processes, and a process makes up of atomic work process

What, in what format, how much and often, what/how to control, what possible problems

What, in what format, how much and often, what/how to control, what possible problems, to what process







## 3 Workflow Management in Action

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- **In NSL**

Developing a CAS Archiving System as part of NSTL Archiving Network, including:

- Planning and policies
- An e-journal archiving system
- Certification of digital repositories
- Trusted workflow management
- Others related works



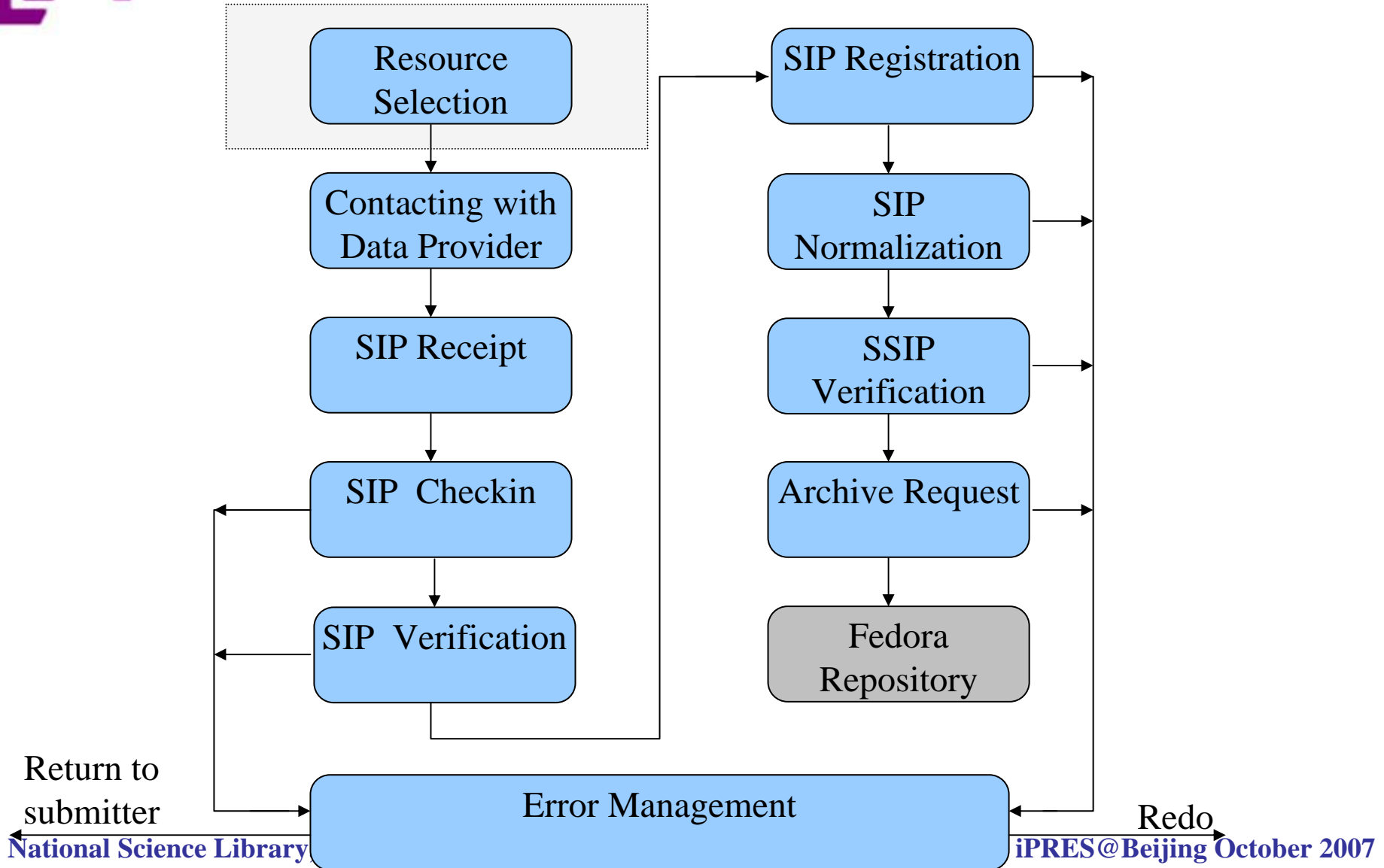
## **3 Workflow Management in Action**

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- **In trusted workflow management part of the project:**
  - **Scan this field for knowledge and experiences**
  - **Research the major problems for application**
  - **Develop a trusted workflow management framework**
  - **Develop a trusted workflow management guideline**
  - **Test**

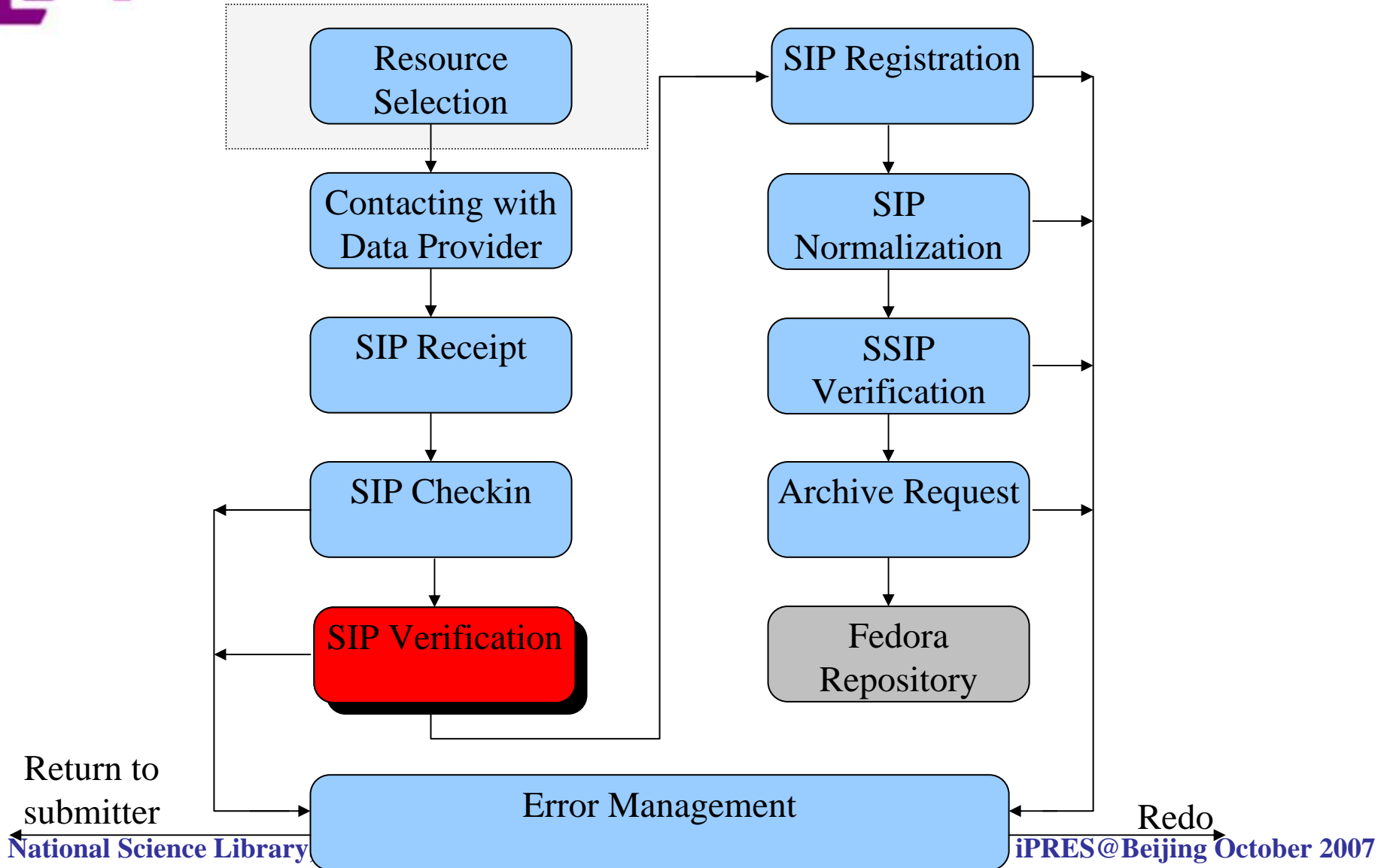


## 3 A Case Study : Ingest





## 3 A Case Study : SIP verification



Return to  
submitter

National Science Library

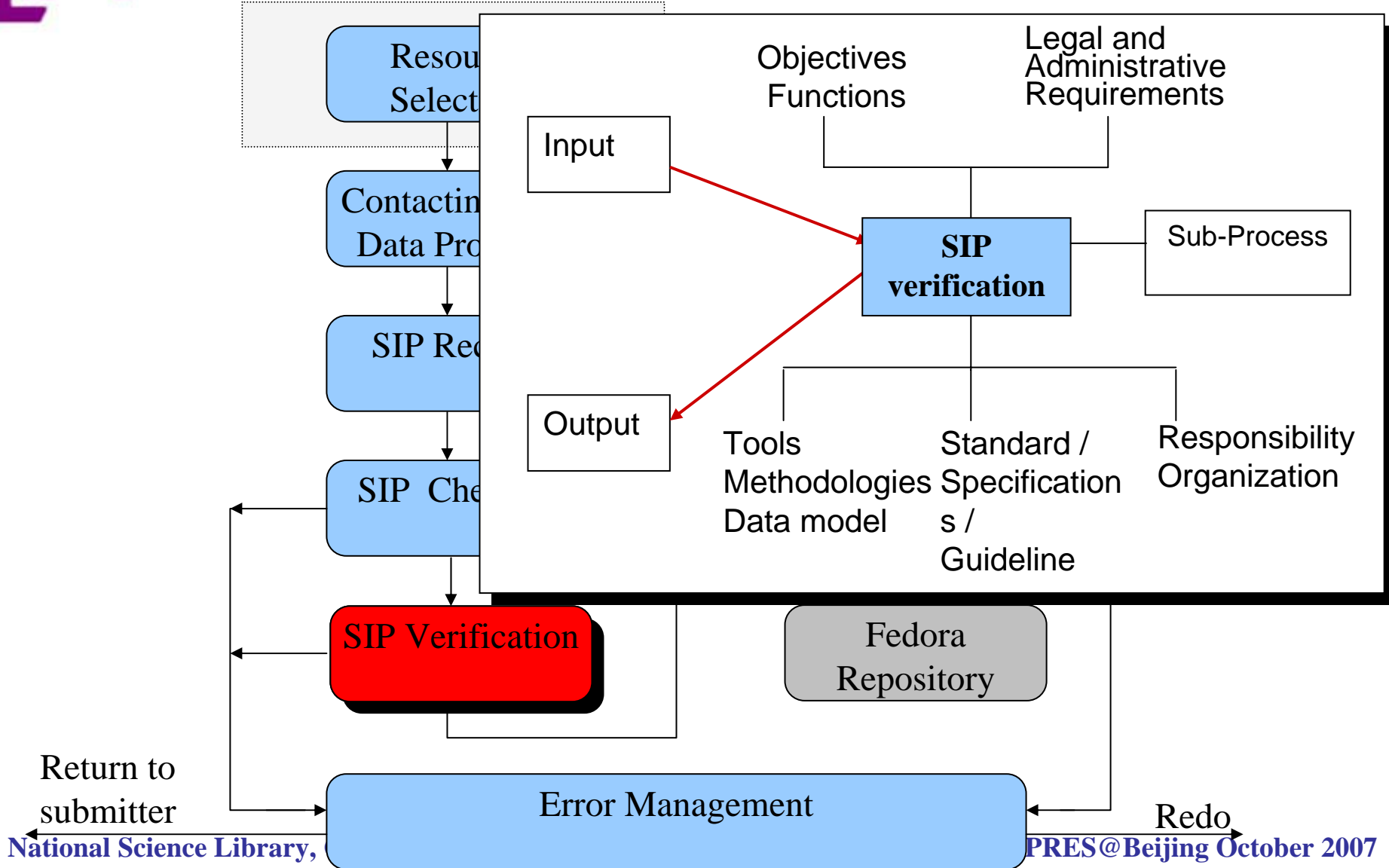
Error Management

Redo

iPRES@Beijing October 2007

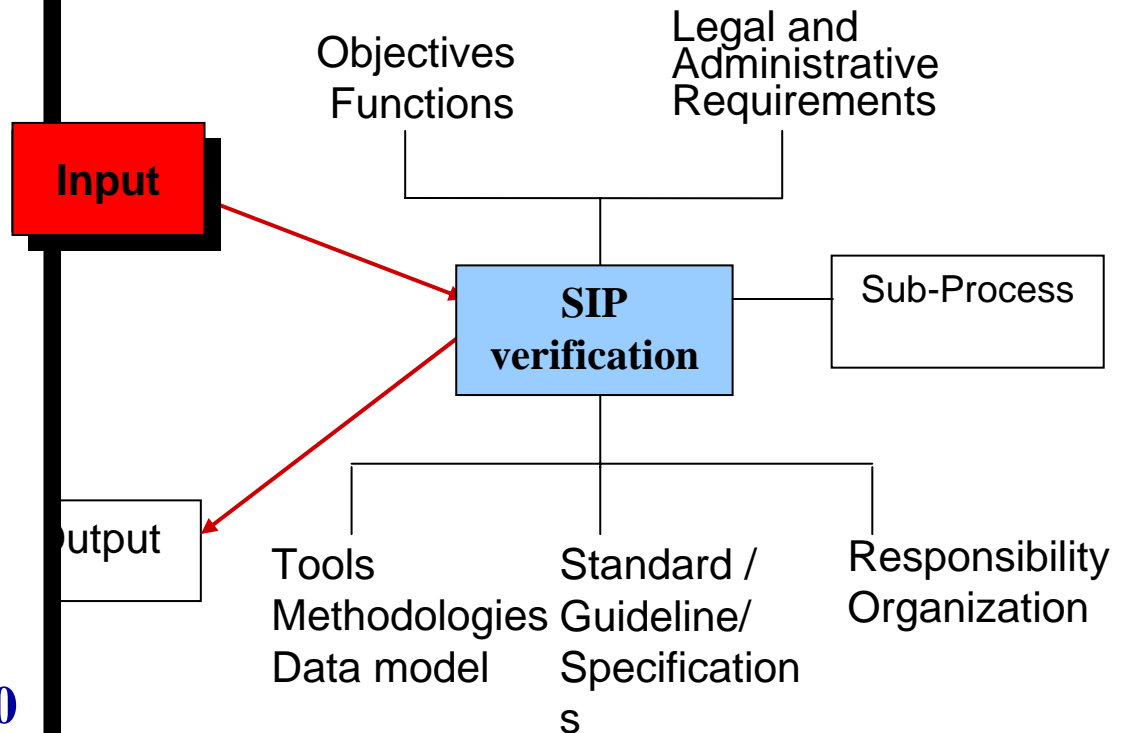


# 3 A Case Study : SIP verification



## 3 A Case Study : SIP verification

**Object:** SIP from Nature  
**Source:** SIP checkin  
**Format:** XML & PDF  
**Content:** package, dir. , rec.  
**Submit Req.:**  
-**Frequency:** one month  
-**Coverage:** ten journals packages,...  
-**Time:** 2007-08-10 09:53:42.0  
-**Submitter:** Wu Zhenxin  
-**Method:** Request  
-**Port:** None  
**Description:** passed checkin without any error  
**Related Links:**  
[/report/nature/nature20070810\\_checkin.doc...](#)  
**Result :** Yes(/No/Error)





## 3 A Case Study : SIP verification

**Object:**SIP from Data provider

**Source:** SIP early check

**Format:** XML &PDF

**Content:**package, dir. , rec.

**Submit Req.:**

-**Frequency:**one month

-**Coverage:**journals

-**Time:**2007-10-10 09:53:42.0

-**Submitter:**Wu Zhenxin

-**Method:**Request

-**Port:** None

**Description:** passed  
verification without any error

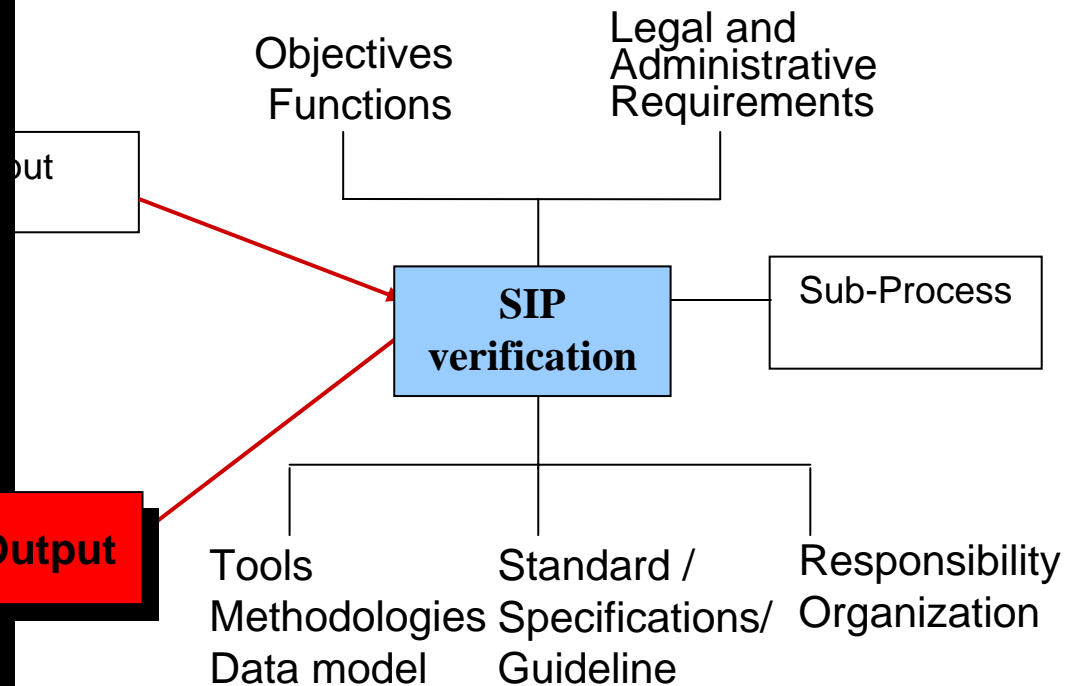
**Related Links:**

[/report/nature/nature2007081](#)

[0\\_verification.doc...](#)

**Result :**Yes/No/Error

Output





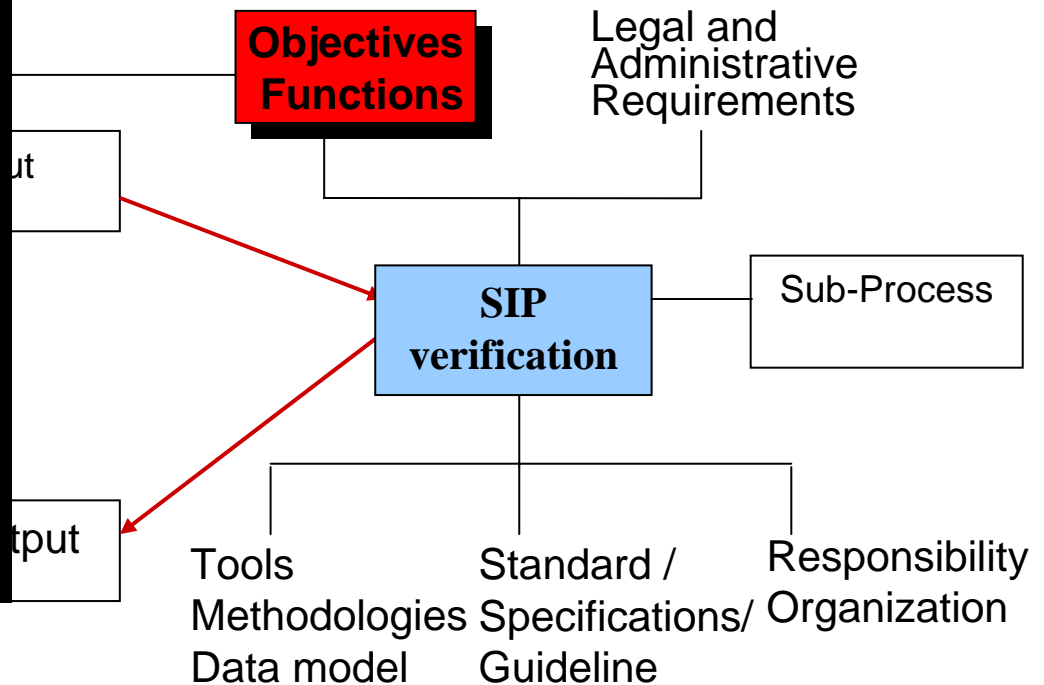
## 3 A Case Study : SIP verification

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### ▪ Objectives & Functions

**Objectives:**  
verify SIP according to SA(Submission Agreement)

**Functions:**  
-integrity of all packages  
-structure of the XML files  
-Version of PDF files  
- Number of the package, collection, record



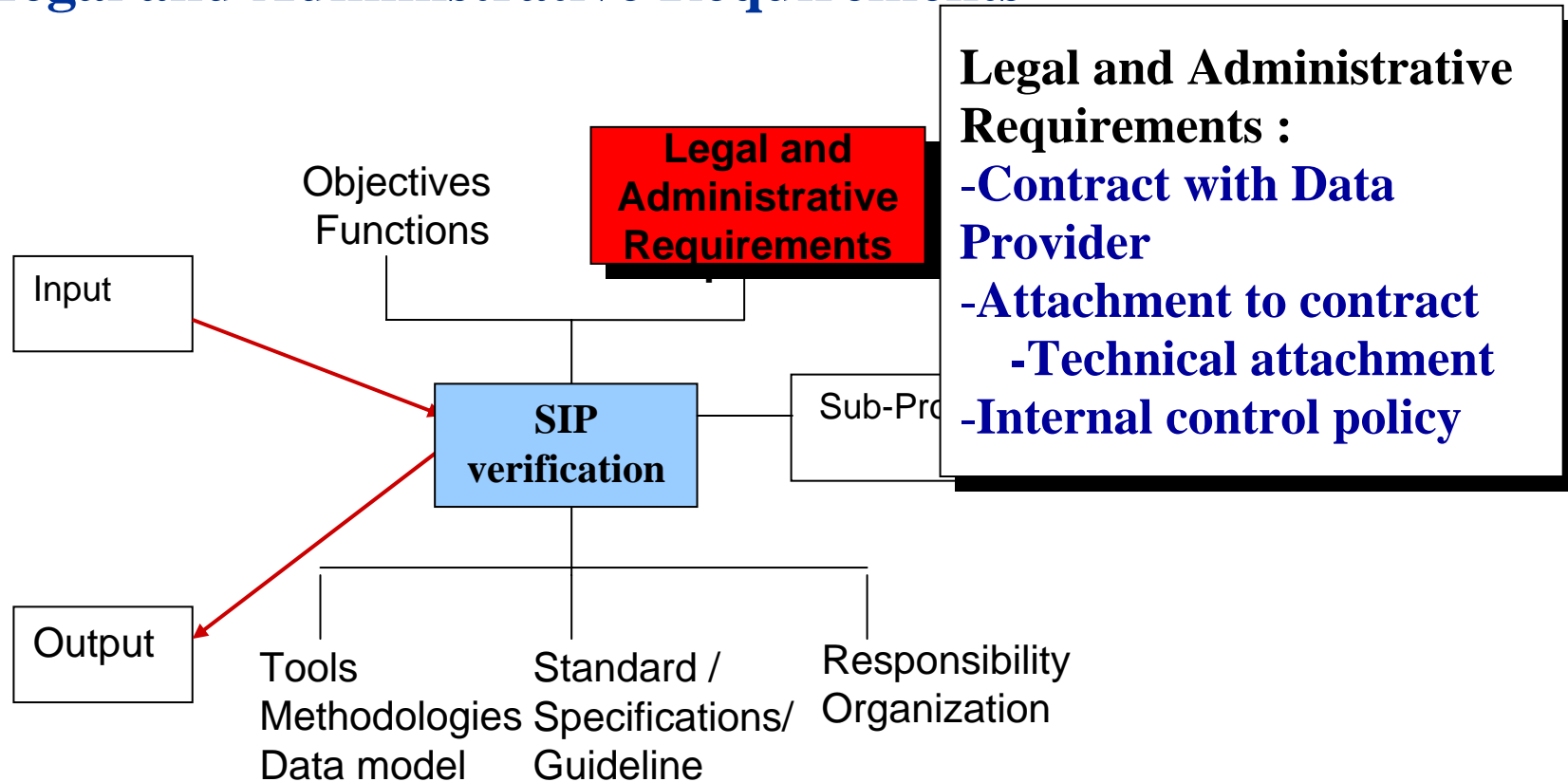




## 3 A Case Study : SIP verification

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### ▪ Legal and Administrative Requirements

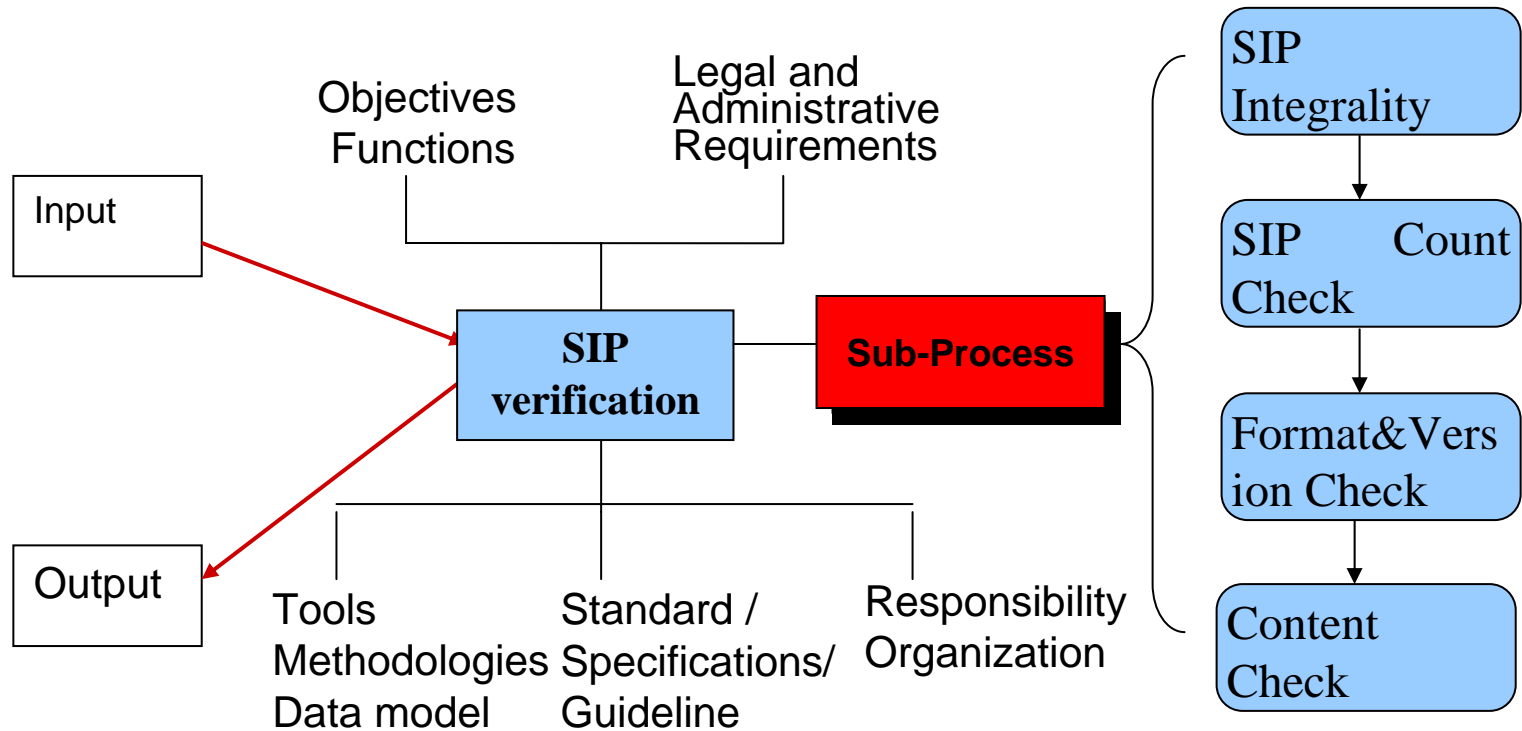




## 3 A Case Study : SIP verification

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### ■ Sub-Process

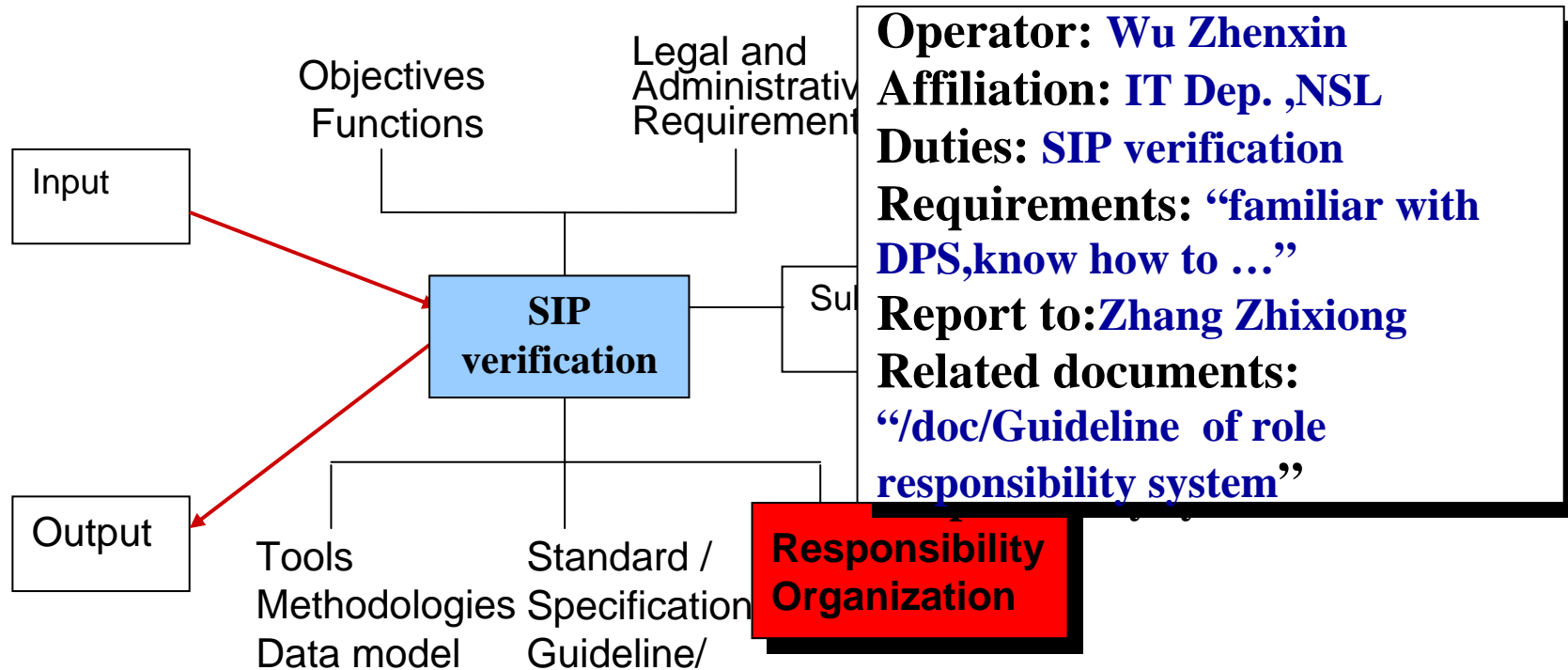




## 3 A Case Study : SIP verification

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### ■ Responsibility Organization

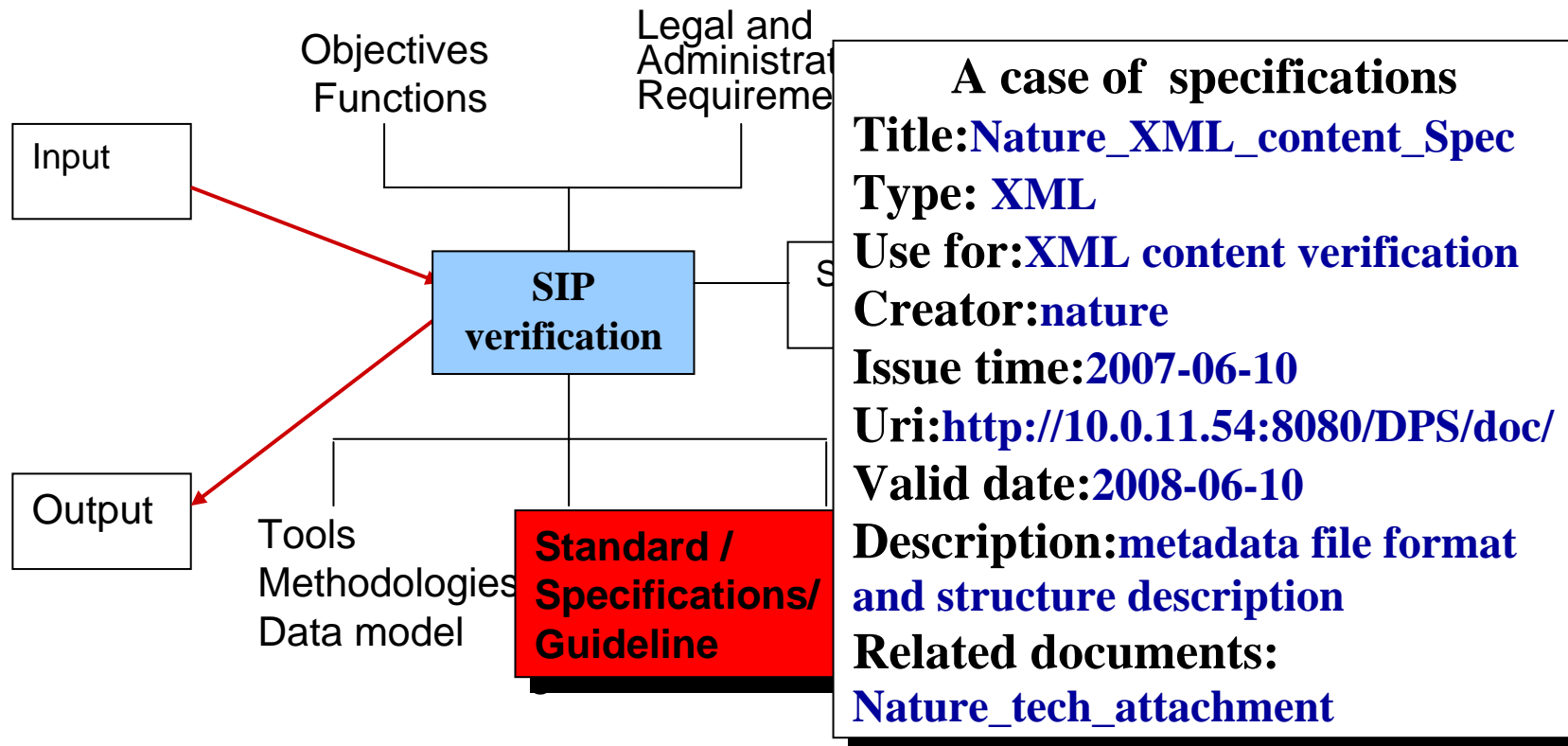




## 3 A Case Study : SIP verification

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- Standard / Specifications / Guideline

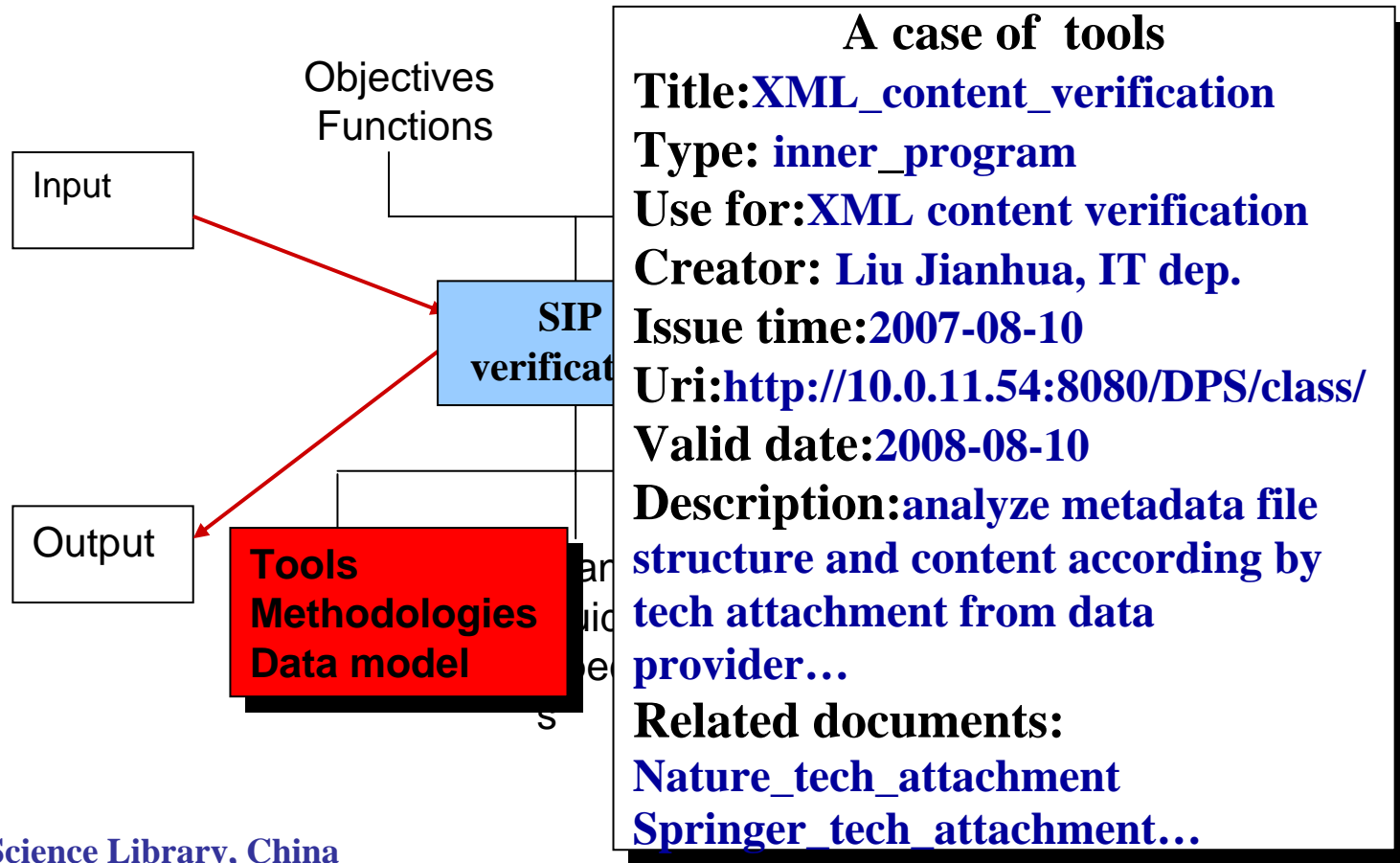




## 3 A Case Study : SIP verification

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- Tools / Methodologies / Data model





## 4 Further questions

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- Enforceable granularity
- Labor intensive
- It's very burdensome
- Implementation
- Collaboration with other parts
- Best practice
- ...



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- **Thanks my colleague for many helps**
    - **Zhang Zhixiong**
    - **Huang Guobin**



Question?

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**Thanks !**