

# *X* for Internet Management: Yet Another Hype?

Jürgen Schönwälder

Department of Computer Science

University of Osnabrück

Germany

# Observation $X$ :

# Observation $X$ :

For all  $X \in \{\text{CORBA, RMI-EJB, WEB SERVICES}\}$ :

# Observation $X$ :

For all  $X \in \{\text{CORBA, RMI-EJB, WEB SERVICES}\}$ :

- (i) There will be several “research” papers discussing how to utilize  $X$  for Internet management



# Observation $X$ :

For all  $X \in \{\text{CORBA, RMI-EJB, WEB SERVICES}\}$ :

- (i) There will be several “research” papers discussing how to utilize  $X$  for Internet management
  - “Everybody else is doing  $X$ , so do I”
  - It is convenient to redo already understood concepts in technology  $X$
- (ii) It is very unlikely that  $X$  will be of importance as a management interface of devices

# Observation $X$ :

For all  $X \in \{\text{CORBA, RMI-EJB, WEB SERVICES}\}$ :

- (i) There will be several “research” papers discussing how to utilize  $X$  for Internet management
  - “Everybody else is doing  $X$ , so do I”
  - It is convenient to redo already understood concepts in technology  $X$
  
- (ii) It is very unlikely that  $X$  will be of importance as a management interface of devices
  - The IETF is the authority to define Internet device management protocols
  - The IETF generally does not do  $X$

# Observation $M$ :

A complete management protocol  $M$  must support the following set of essential management protocol primitives:

- get, set, create, delete
- search (or at least iterate)
- lock, unlock, commit, rollback
- notify
- execute

# Observation $M$ :

A complete management protocol  $M$  must support the following set of essential management protocol primitives:

- get, set, create, delete
- search (or at least iterate)
- lock, unlock, commit, rollback
- notify
- execute

Proof:

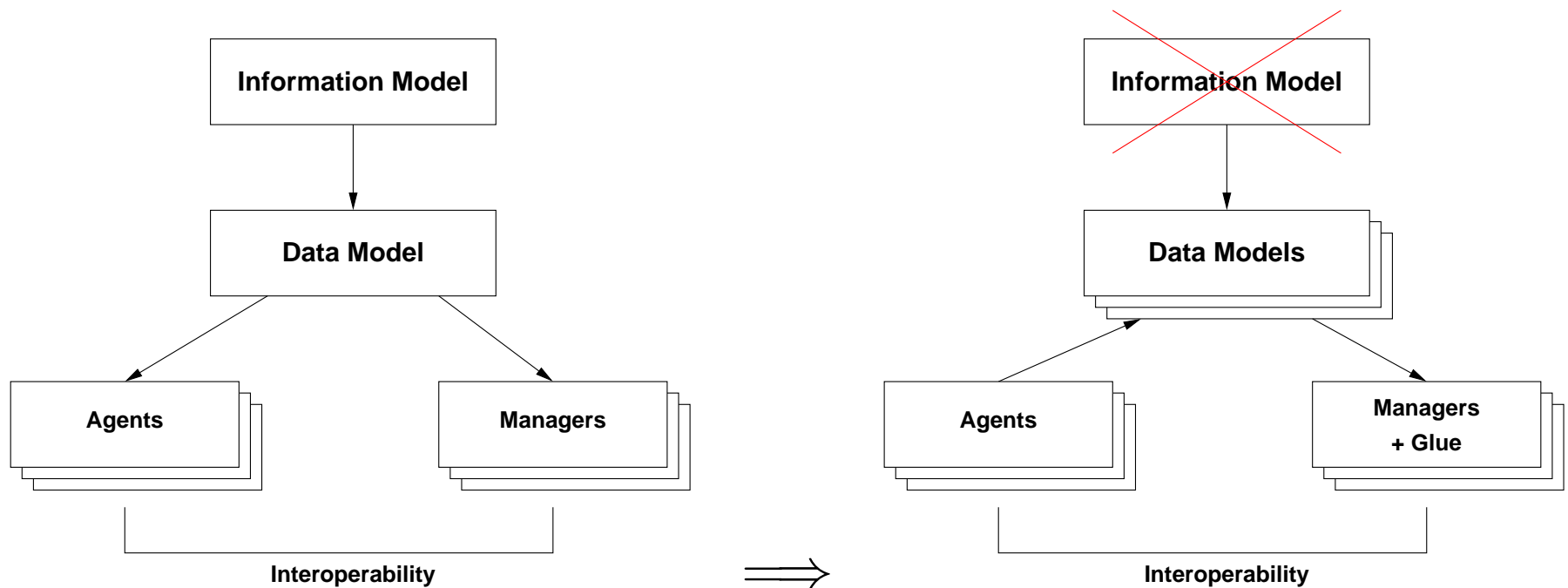
- Experience with incomplete solutions (SNMP/CMIP)
- Network Management Research Group (NMRG)

# Observation $L$ :

Loosely coupled systems  $L$  allow fast technology progress by reducing the amount of time spend on information and data modeling.

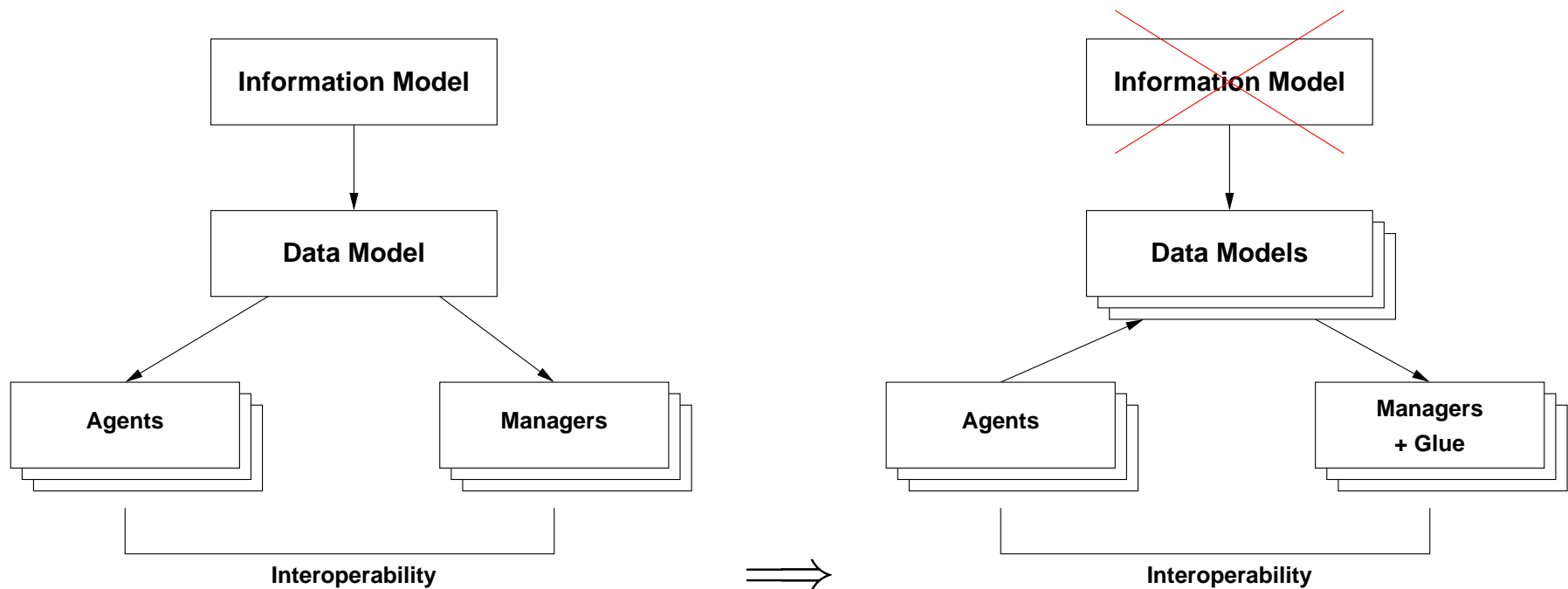
# Observation *L*:

Loosely coupled systems *L* allow fast technology progress by reducing the amount of time spend on information and data modeling.



# Observation *L*:

Loosely coupled systems *L* allow fast technology progress by reducing the amount of time spend on information and data modeling.



Proof:

- Today's Internet management with CLIs

**From  $X$ ,  $M$  and  $L$  follows:**

**From  $X$ ,  $M$  and  $L$  follows:**

*XML* for Internet Management:

Not Another Hype!

# From *X*, *M* and *L* follows:

*XML* for Internet Management:

Not Another Hype!

- + Easy “gluing” of management data (XSLT)
- + Experience with Juniper’s excellent JunoScript
- + Vendors highly interested to implement
- + Operators excited to replace screen scraping
- + IETF gets ready to start a working group