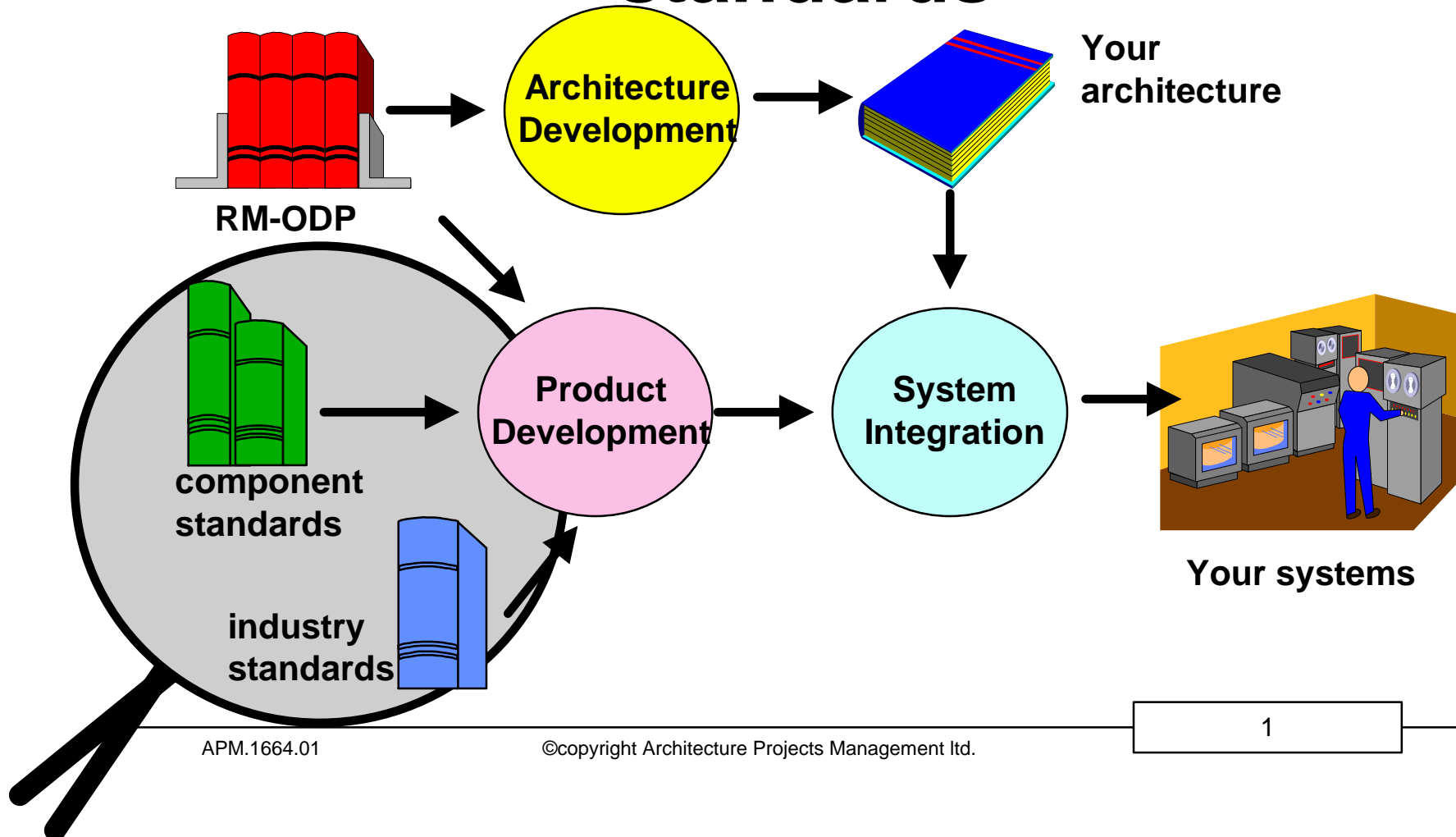


Component & industry standards





Too many standards ?

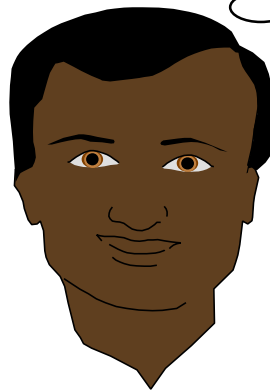
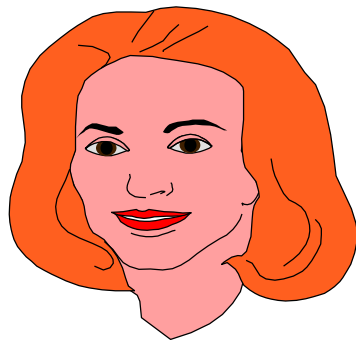
RM-ODP
CORBA
DCE
B-ISDN
ATM
Trading
IDL
RPC
UNIX
SQL
RDA
WINDOWS/NT
TCP/IP
W3C
X/Open
Windows/NT
COM
OpenDoc
OLE

Risks

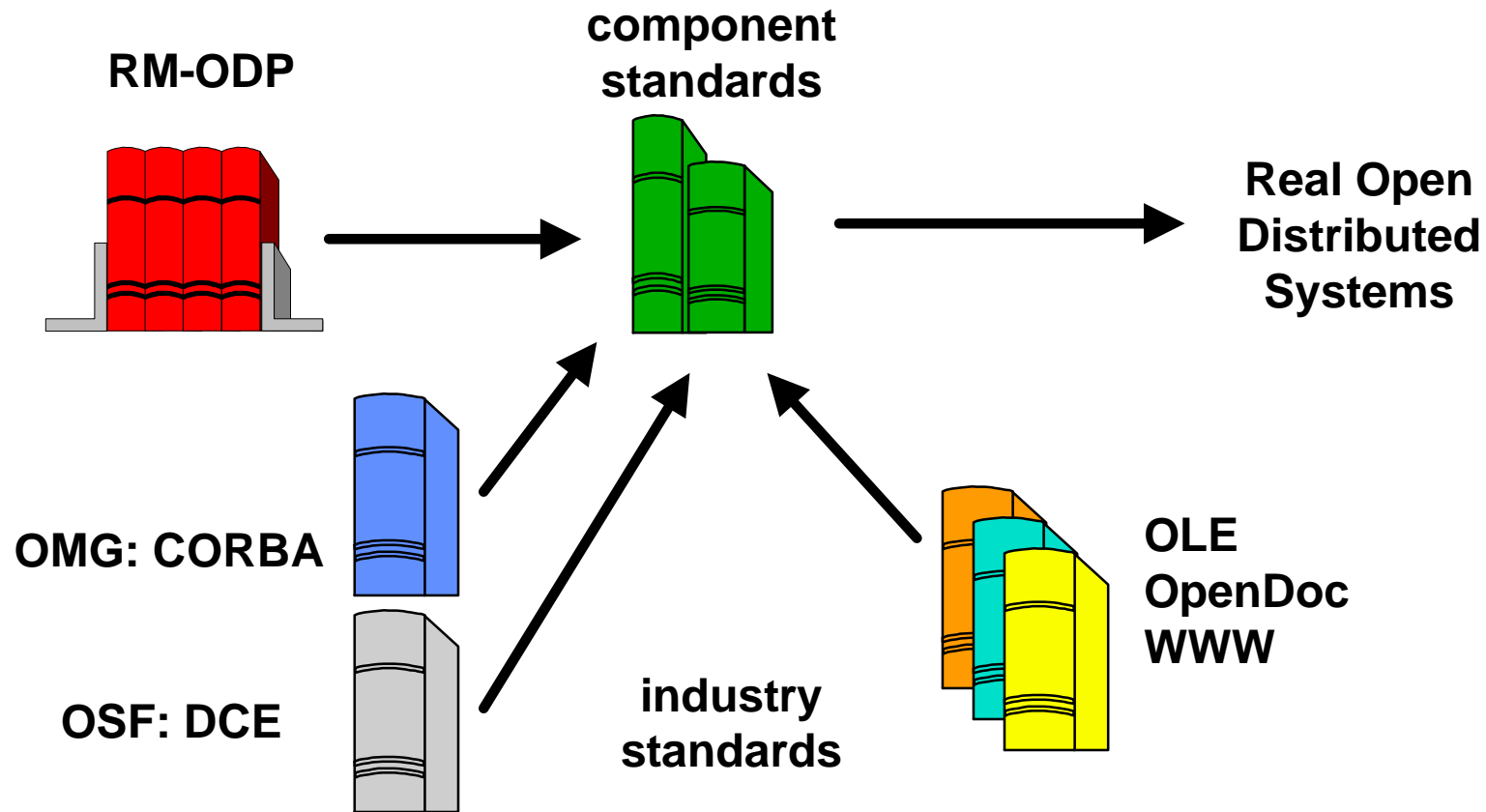
- No framework for comparison
- No guidance for combination
- Mismatch
- High costs

Evaluation

**We need a framework
to evaluate technology and standards**



Framework for standards



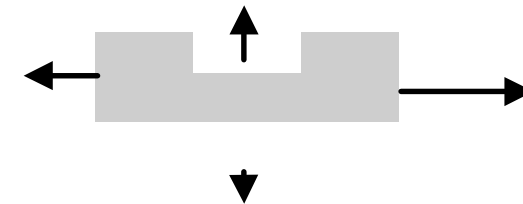
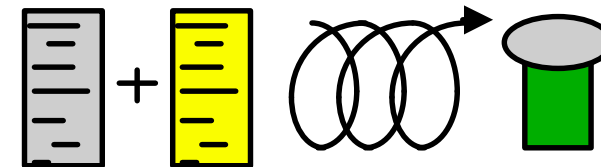
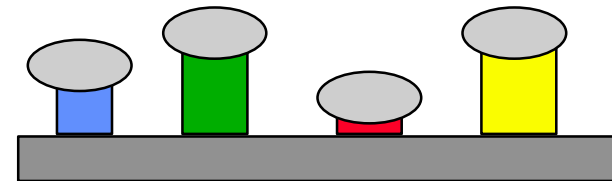
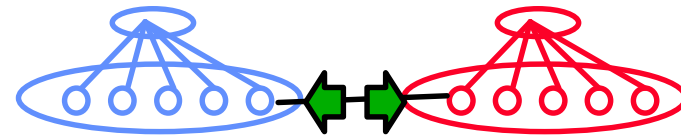


Benefits

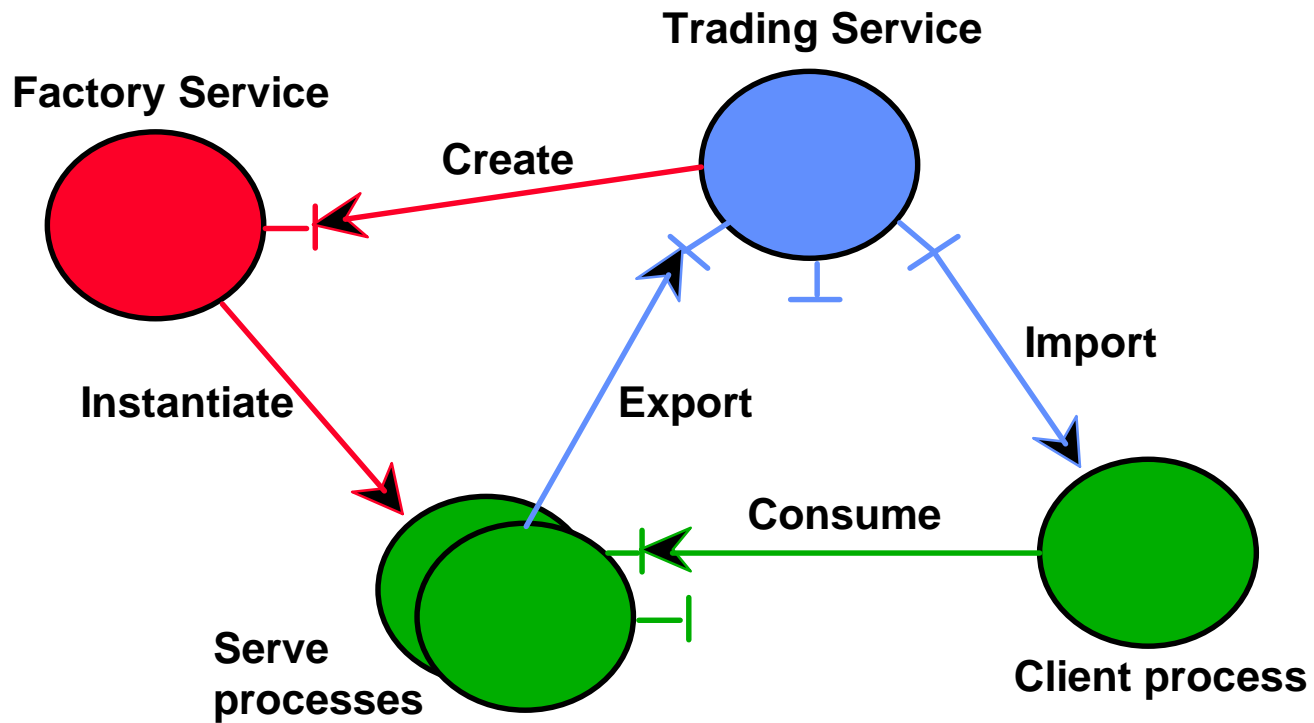
- Agreed terminology
- Stable internationally recognised basis
- Easy communications with your suppliers

DPE principles

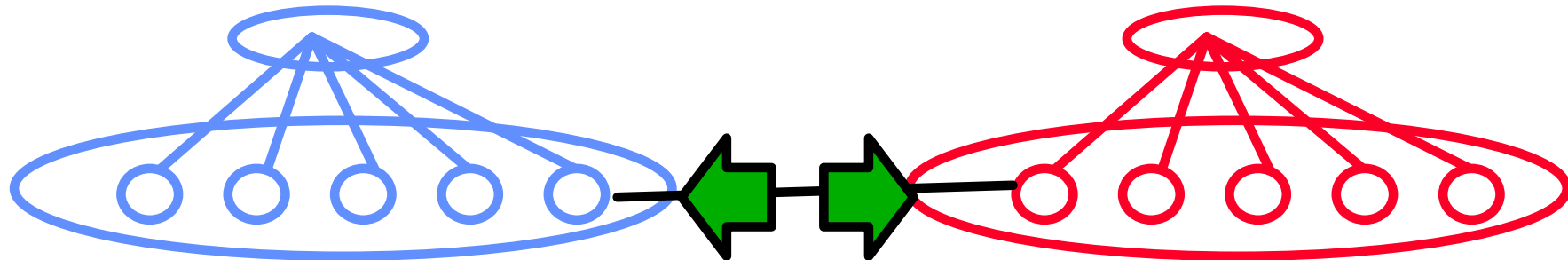
- **Trading and Federation**
 - **configurable interoperability**
- **Custom Infrastructure**
 - **one size does not fit all**
- **Abstract and Automate**
 - **tools replace APIs**
- **Modular Engineering**
 - **architected internal interfaces**



Trading

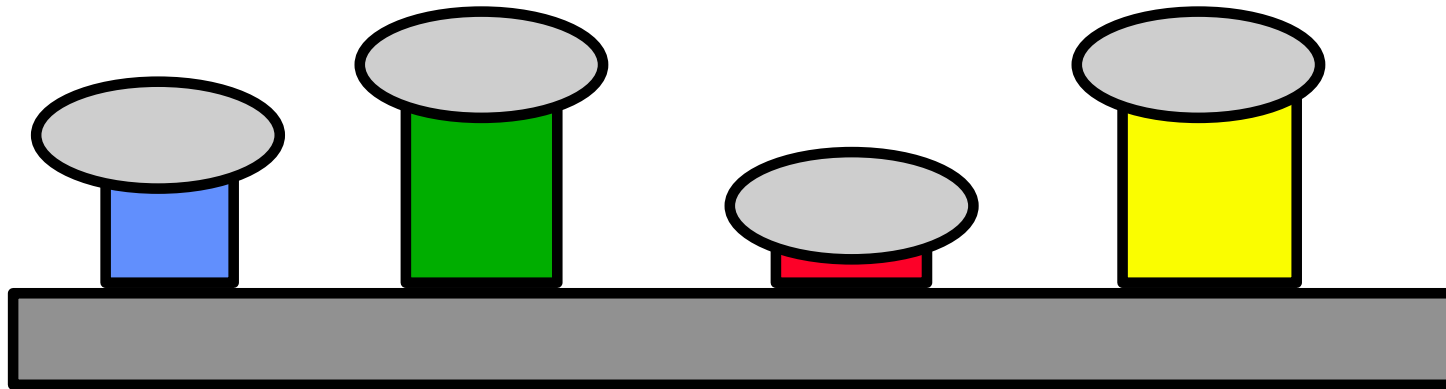


Trading and Federation



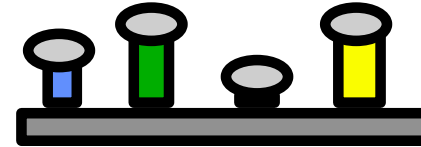
- **Names**
 - OSF DCE, OLE, WWW
- **Interface type**
 - CORBA interface repository, ORBIX, DAIS
- **Service attributes**
 - ODP trader, ICL DAIS, ANSA

Custom Infrastructure



- **Enable trade-offs**
 - **abstraction vs. specialisation**
 - **consistency vs. availability**
 - **autonomy vs. conformity**
 - **security vs. convenience**

Transparency

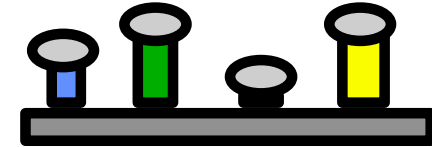


- **Defined in RM-ODP:**

- **location** **don't need to know where is is to use it**
- **access** **don't need to know how it works to use it**
- **migration** **it can move while you use it**
- **replication** **there may be copies**
- **persistence** **it only gets resources when it needs them**
- **partial failure** **it always gets to a consistent state**
- **federation** **it can be administered by someone else**

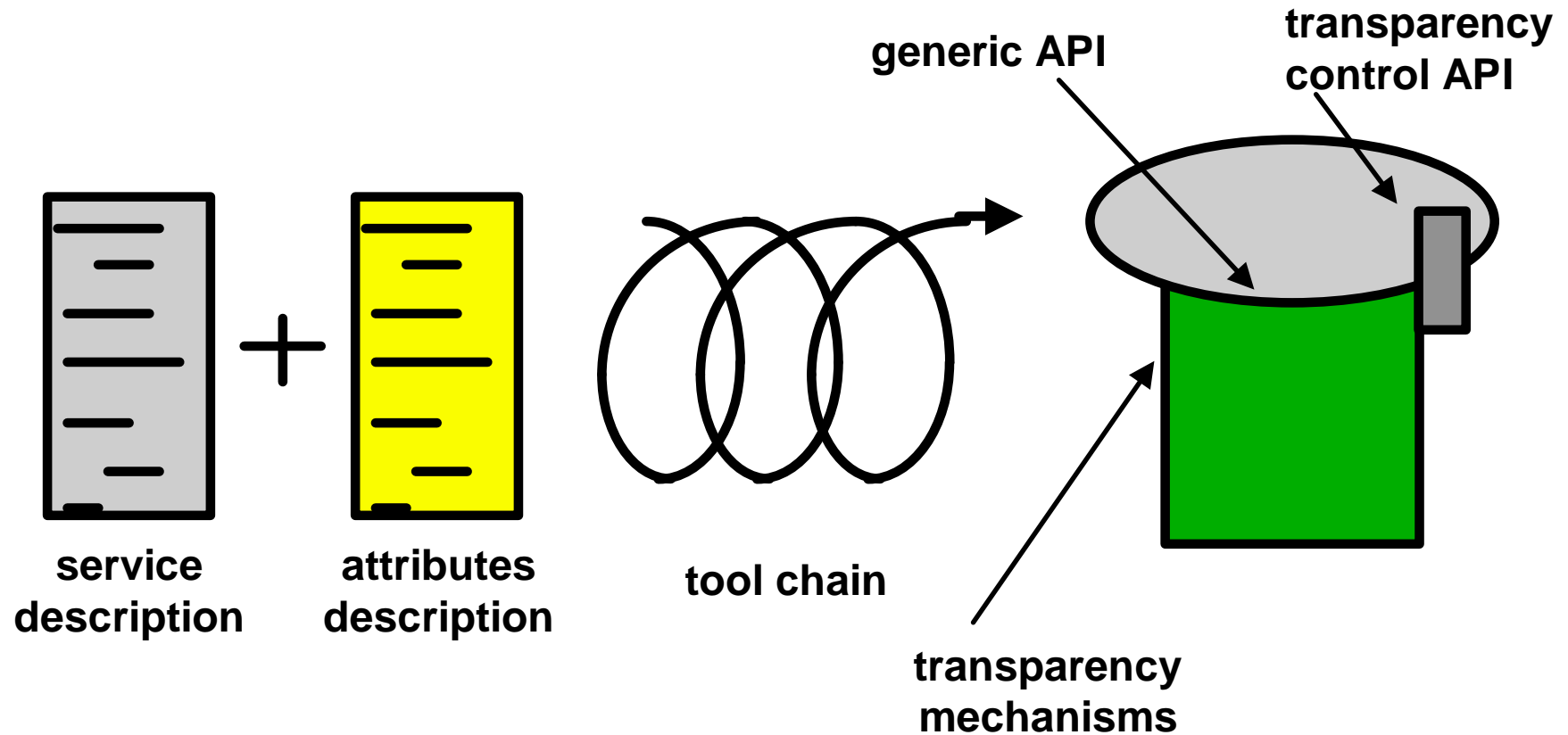
- **Selective transparency**

Transparency

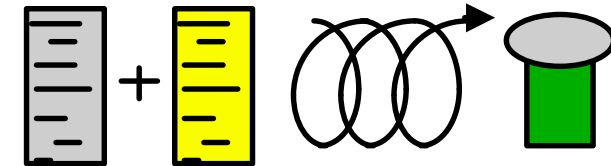


- **Access and location transparencies**
 - supported by most products
- **Migration and replication transparency**
 - not supported
 - not specified by CORBA or DCE
- **Persistence transparency**
- **Partial failure transparency**
 - being solved by integrating CORBA technology with transaction management software

Abstract and Automate



Tools to replace APIs



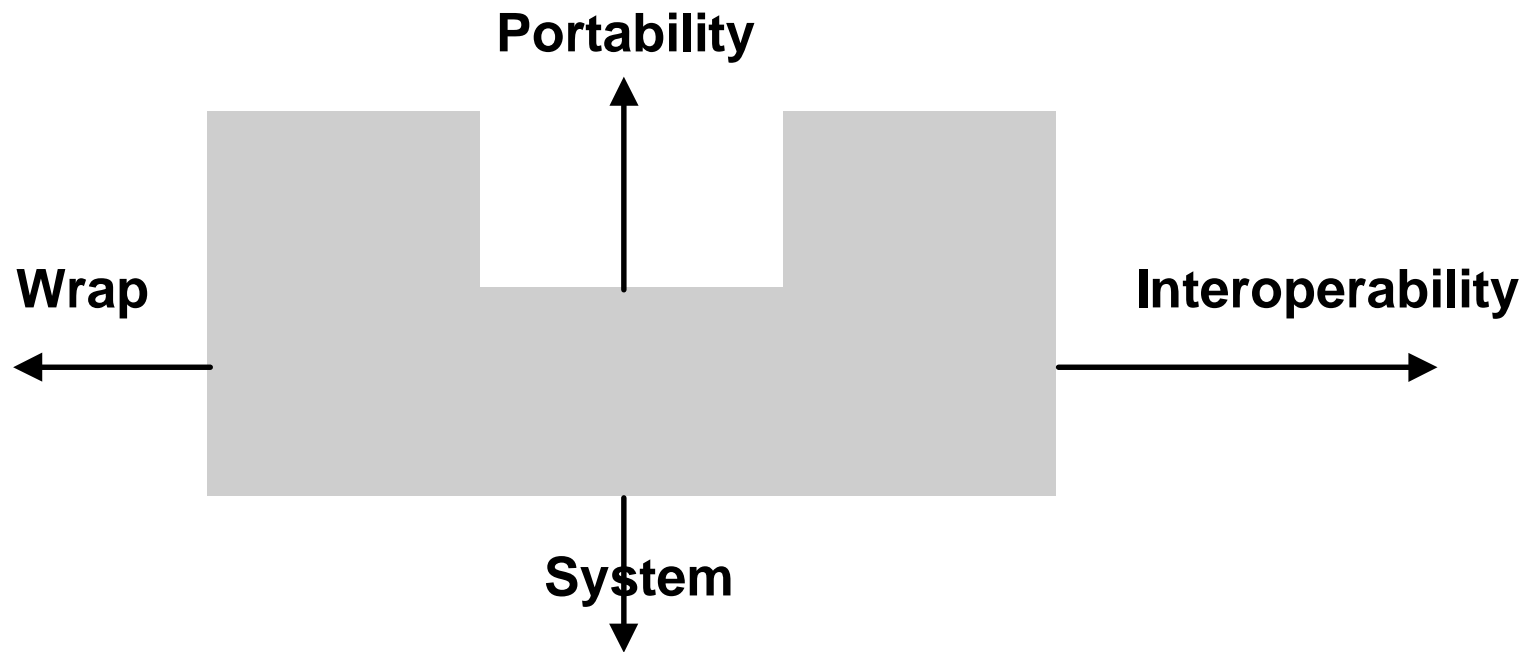
- **OSF-DCE**

- heavilyCORBA products
- language bindings include access and location transparencies
- other transparencies not defined

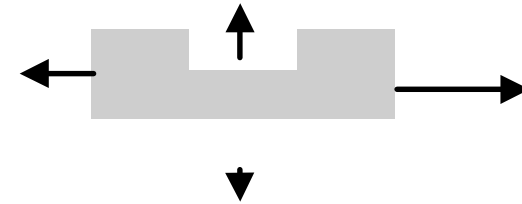
- **OLE, Opendoc, WWW**

- assumed homogeneity makes access transparency easy
- WWW not location transparent

Modular engineering



Interoperability



- **DCE products**
 - **DCE RPC: single protocol view of the world**
- **CORBA products**
 - **IOP: multiple Inter-ORB protocols**
- **OLE, OpenDoc, WWW**
 - **domain specific protocols**

Summary

- **Usability**
 - consistent object models
- **Interoperability**
 - trading and federation
- **Portability**
 - computational model and transparency
- **Flexibility**
 - abstract and automate
- **Re-use**
 - modular engineering of the infrastructure