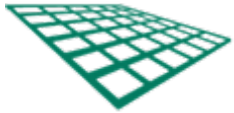


# Grid – Path to Pervasive Adoption

Mark Linesch  
Chairman, Global Grid Forum  
Hewlett Packard Corporation



# Industry is on a journey



Old World

Static

Silo

Physical

Manual

Application



New World

Dynamic

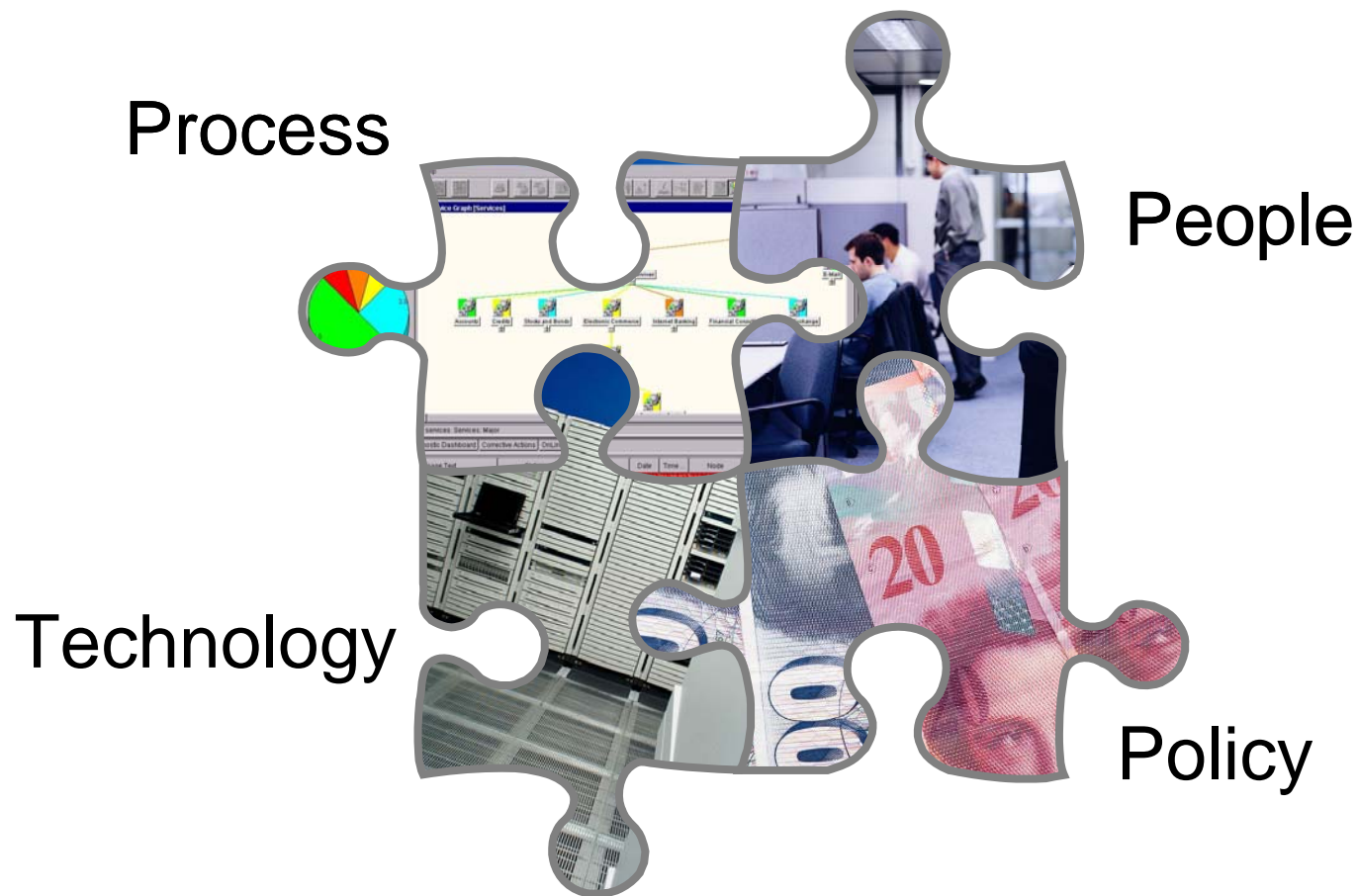
Shared

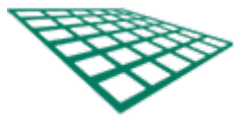
Virtual

Automated

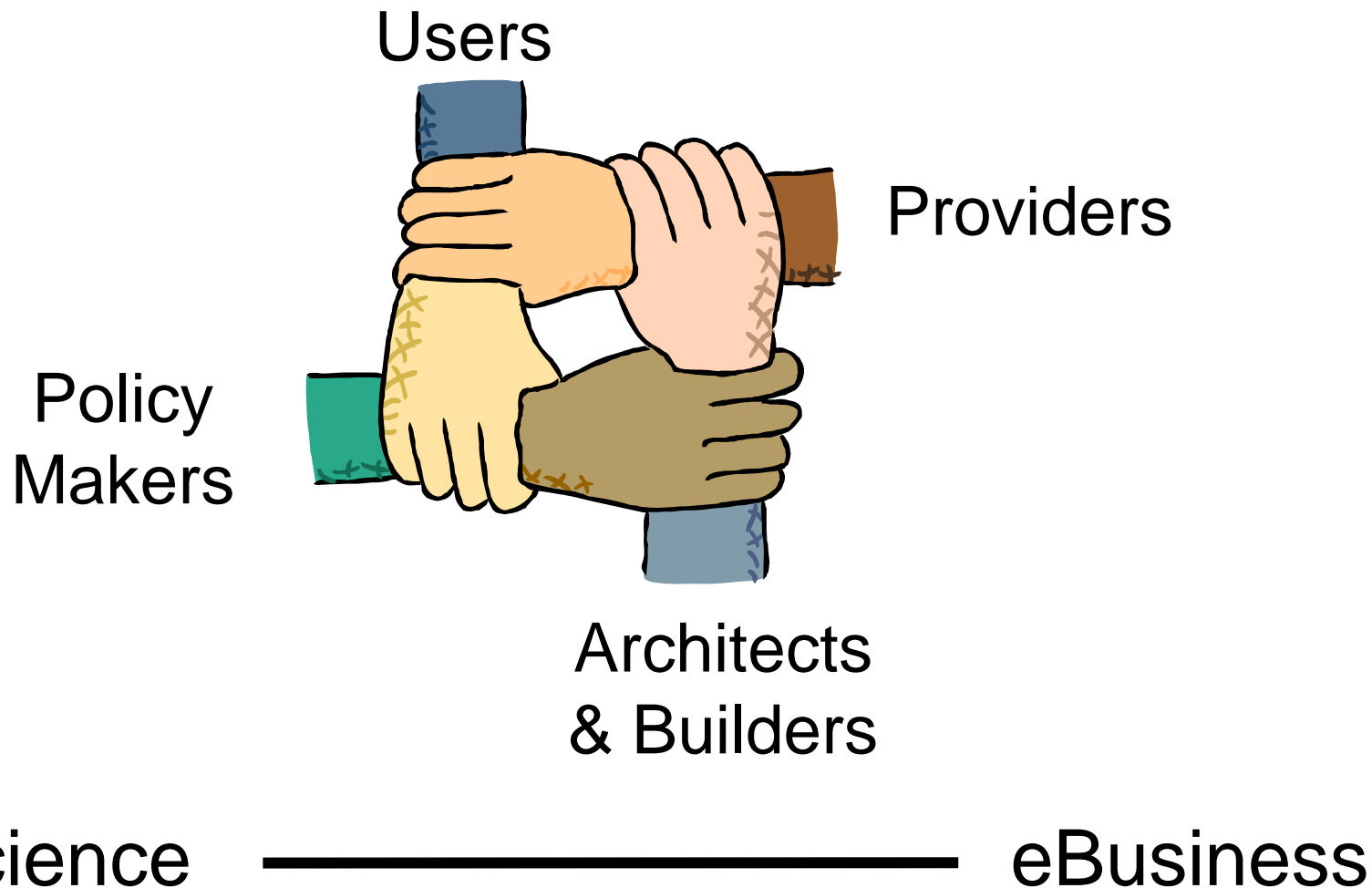
Service

# Journey must comprehend a challenging set of issues

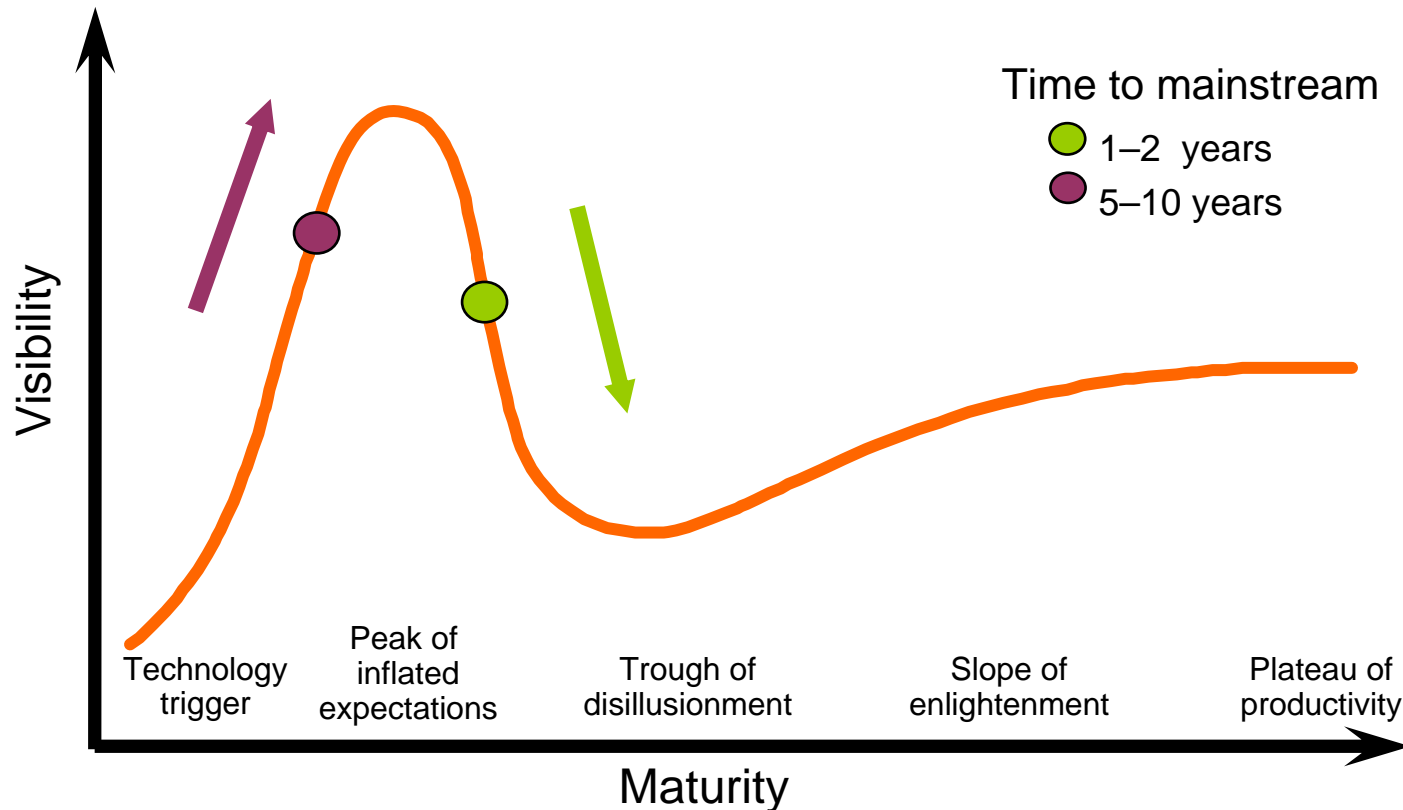


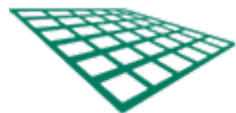


# ... while nurturing a vibrant ecosystem of value



# ... and managing expectations along the way





# Grid & Related Paradigms



## Distributed Computing

- Loosely coupled
- Heterogeneous

## Cluster

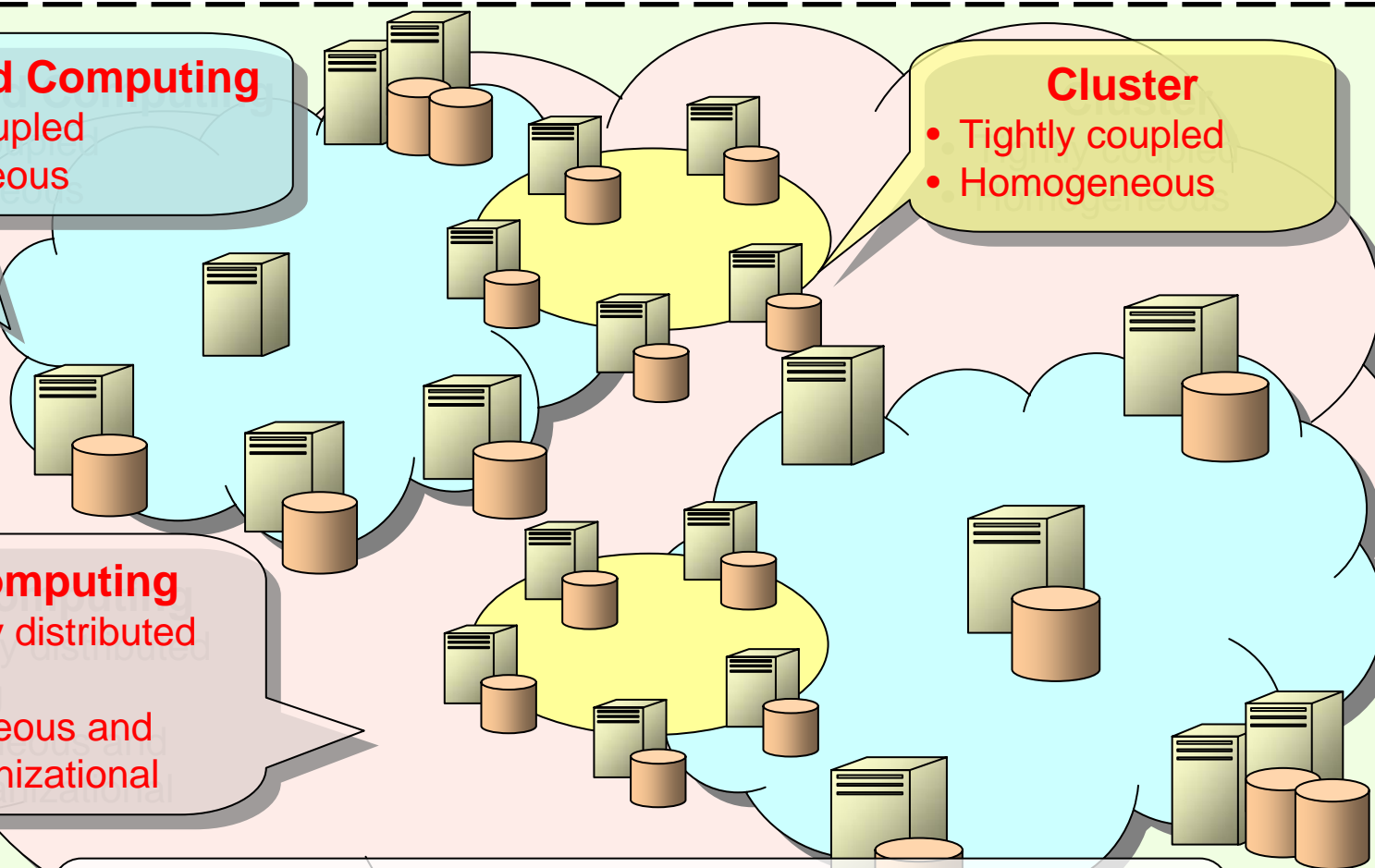
- Tightly coupled
- Homogeneous

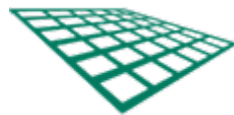
## Grid Computing

- Enabled by distributed computing
- Heterogeneous and cross-organizational

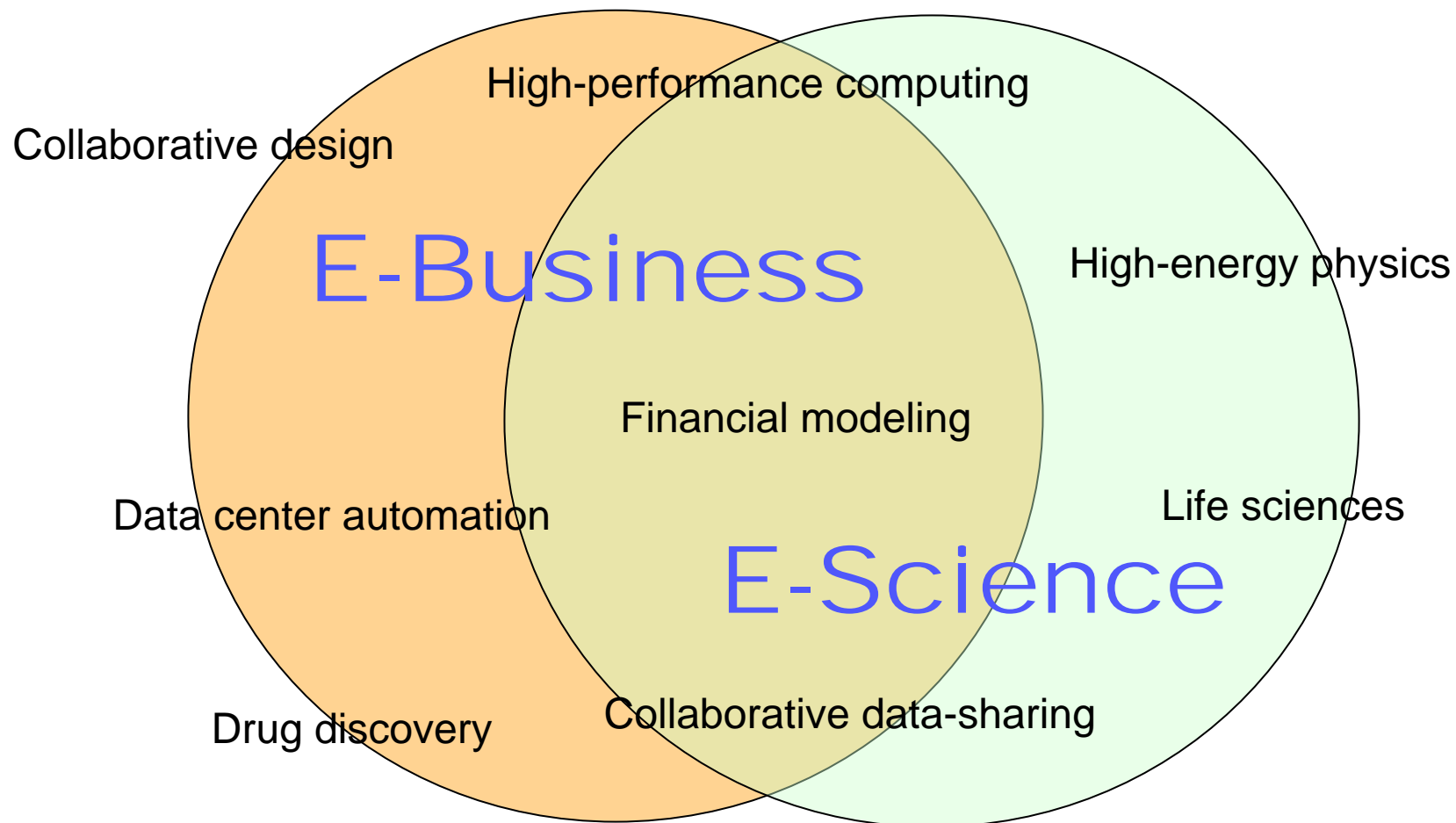
## Utility Computing

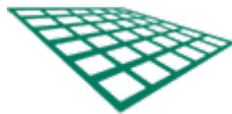
- Enabled by grid and distributed computing technology
- Public or private computing “services”





# How Are Grids Used?



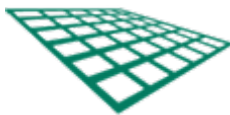


# Grids

with the associated technologies  
(virtualization, automation, service orientation)

are about transforming how science,  
business and IT is done

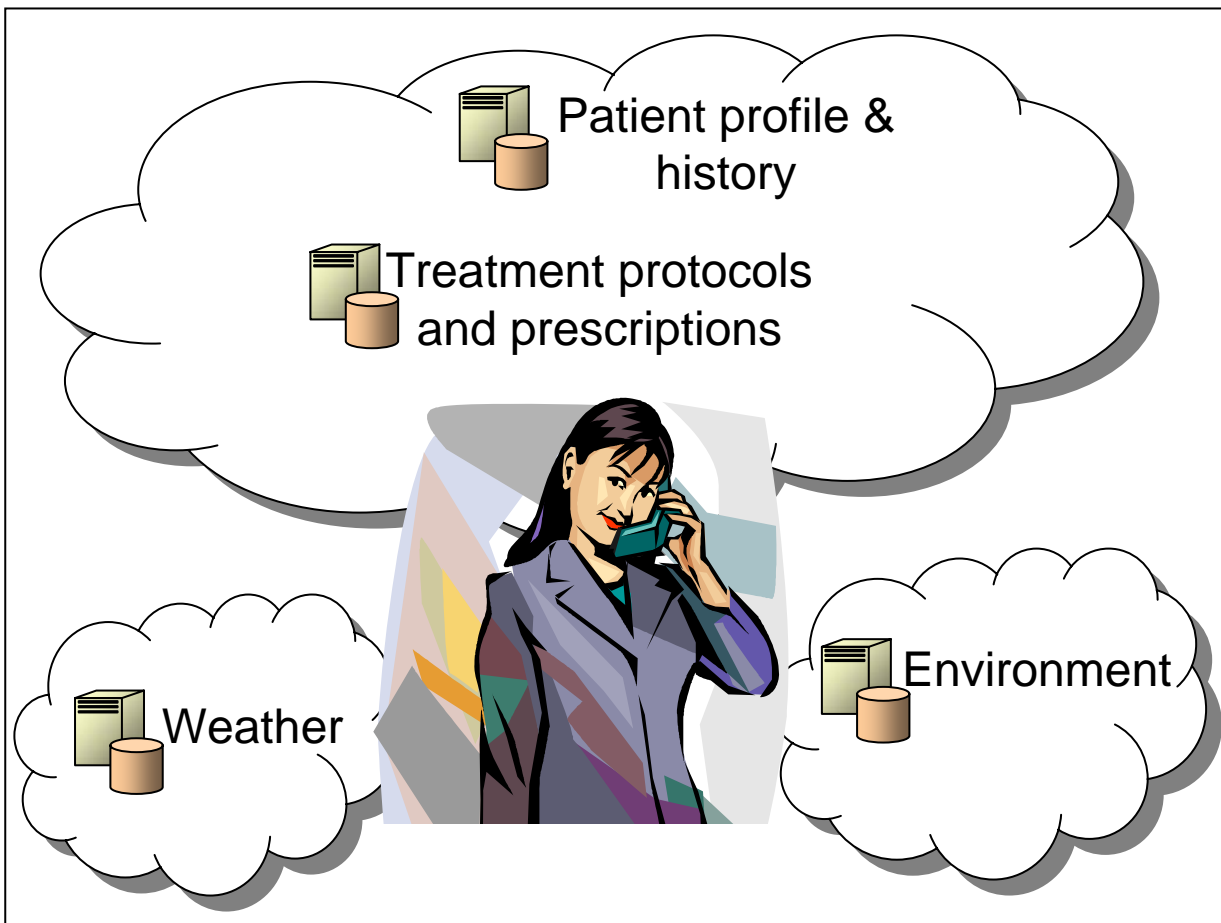




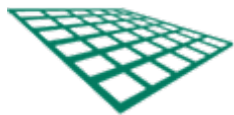
# Example – Transforming Health Care



## Taiwan Asthma Grid

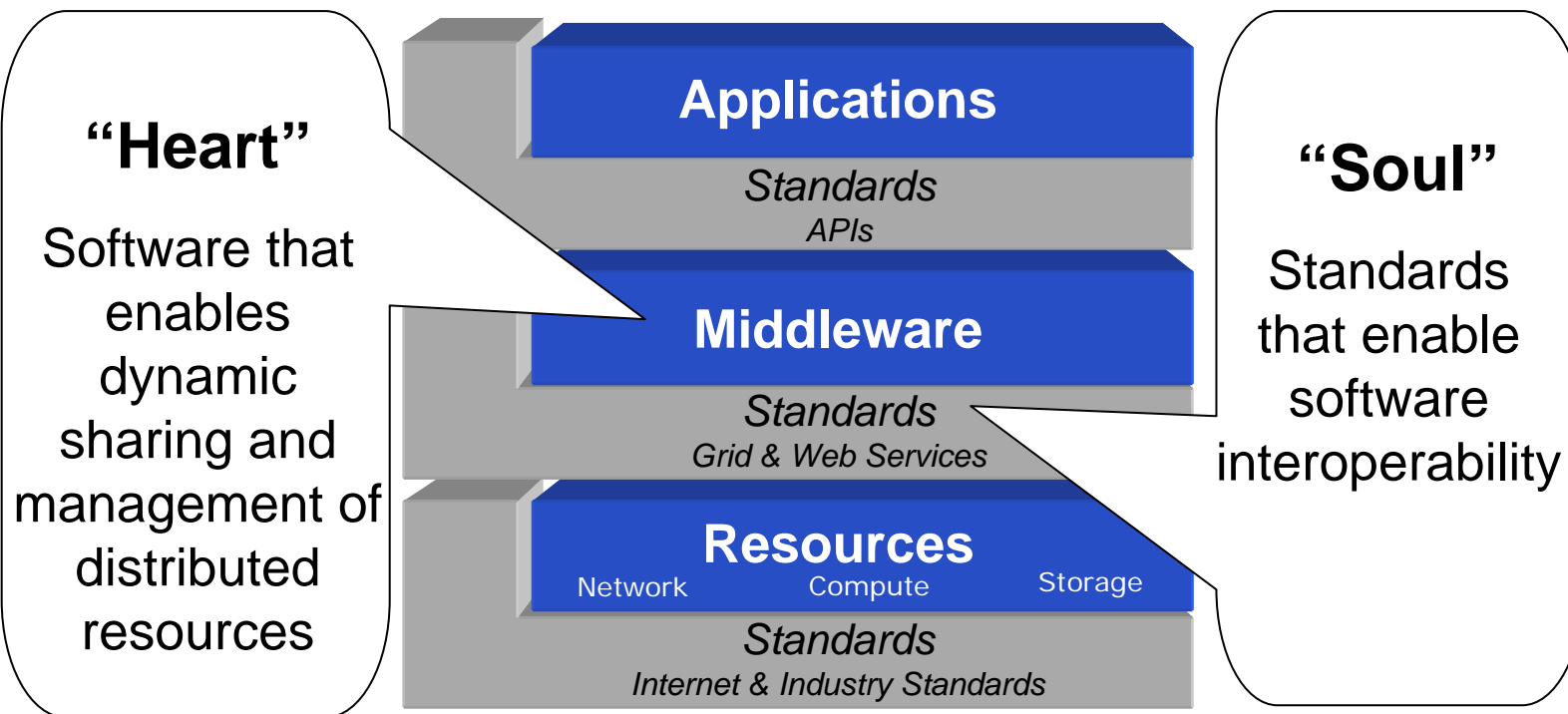


- Improved patient care
- Lower public health care costs
- More effective drugs and treatment protocols



# The “heart” and “soul” of a grid solution

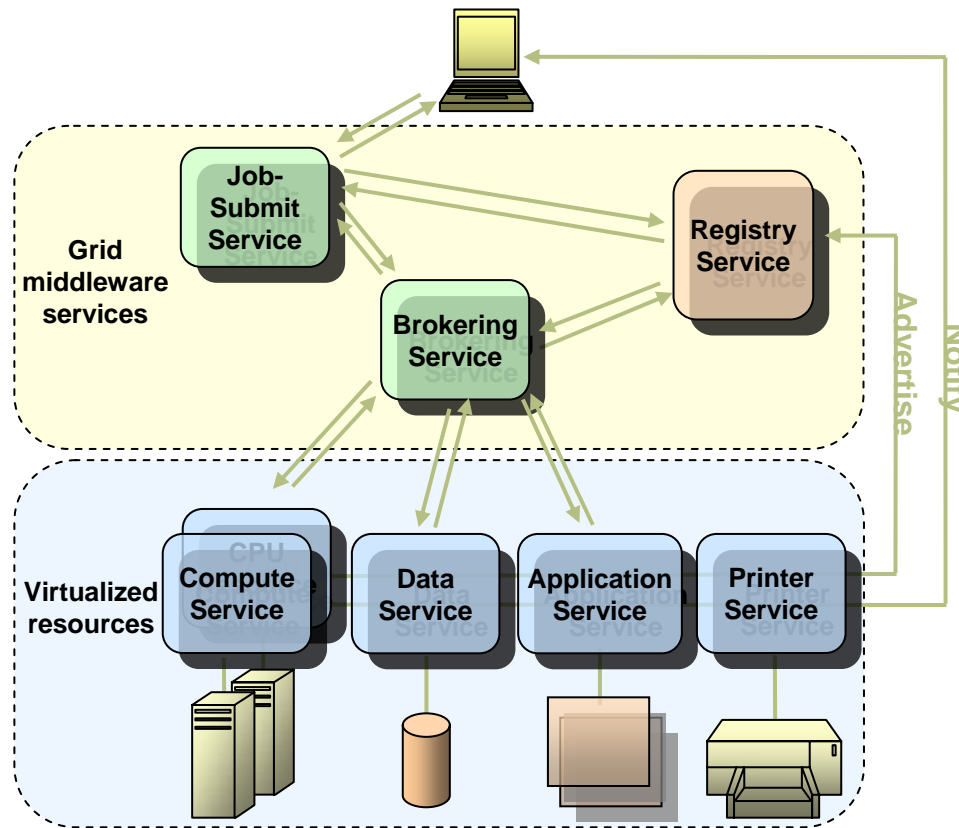
## Grid Solution Stack



# Key Requirements for Grid Middleware

**Secure** authorization, role and access privileges

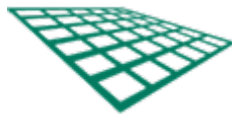
**Execute**  
and manage  
jobs/services



**Data** access,  
transfer and  
management

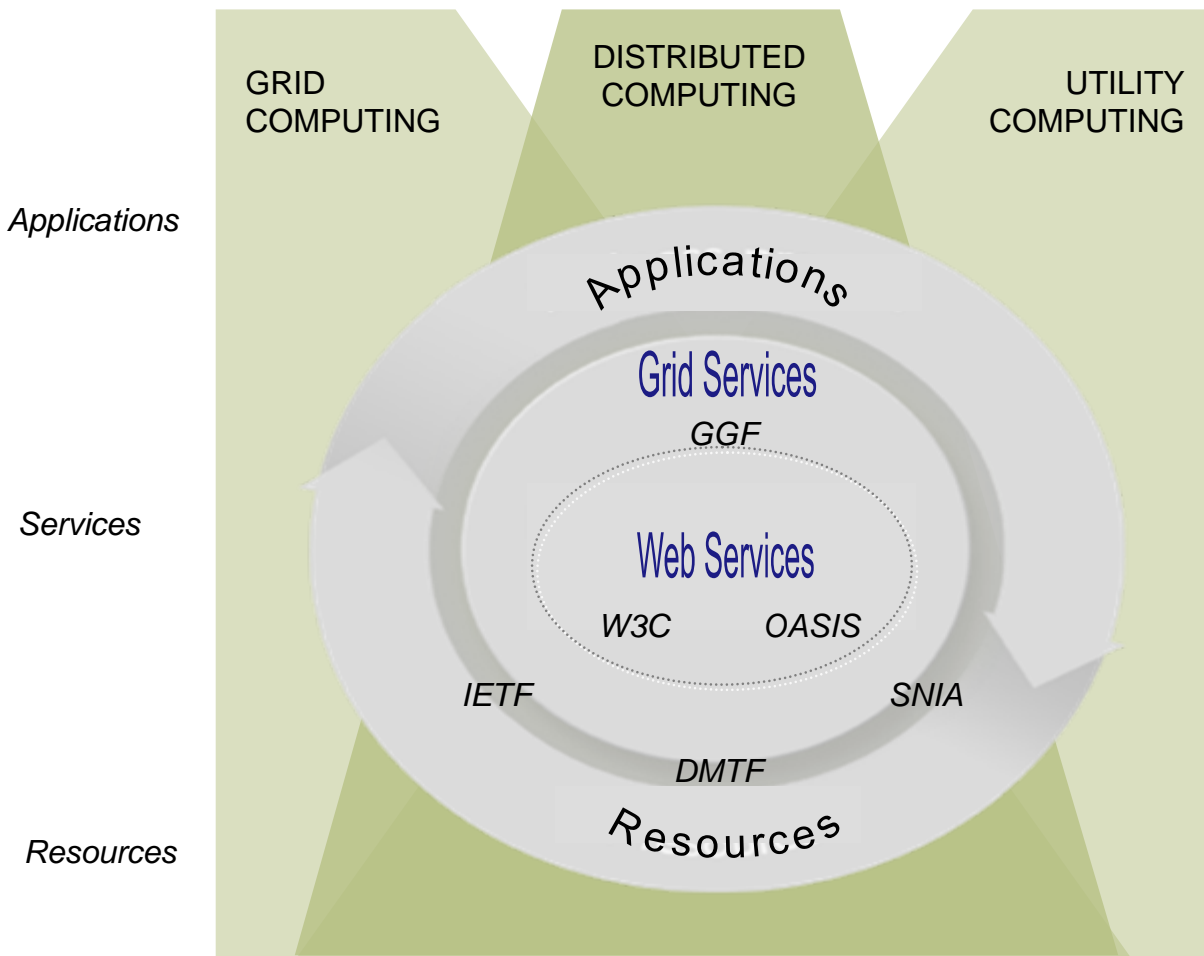
**Resource**  
discovery,  
monitoring &  
control

**Information**  
about  
applications &  
resources



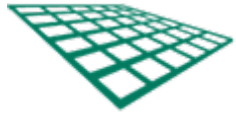
# Standardization

Requires collaboration across the broader distributed computing industry

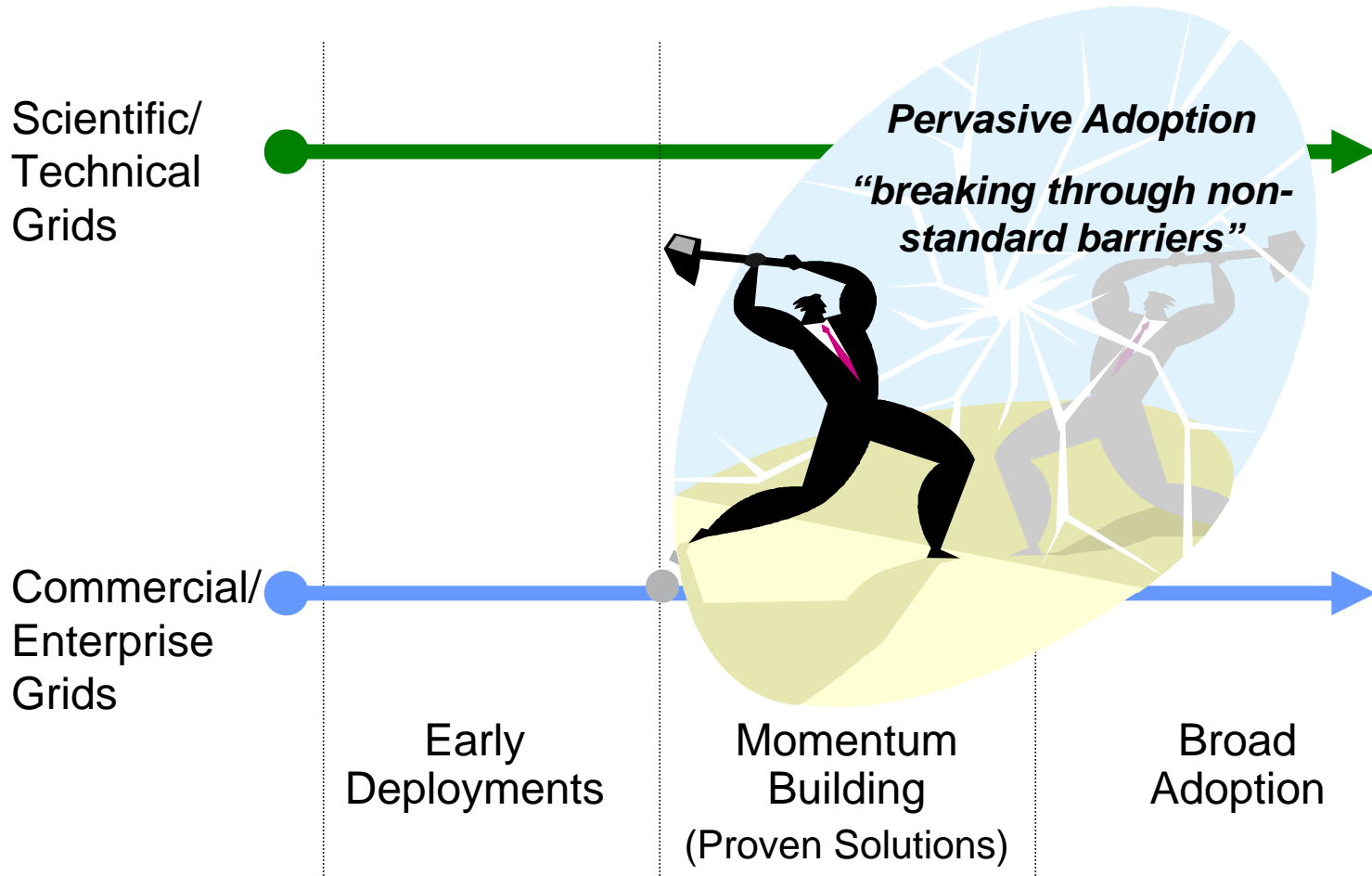


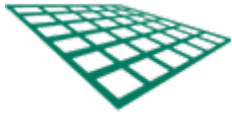
## Requirements

- An open, service-oriented architecture (SOA)
- Built on a Web services infrastructure
- Resource virtualization at the core



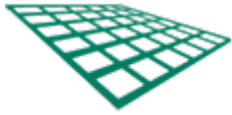
# Adoption will progress in stages





# The path to pervasive adoption





# EGA and GGF

## Accelerating grid adoption

- Standards
- Community
- Collaboration

*Pervasive Adoption*



*Grid & Distributed Computing  
Communities*

**Thank you!**